









WING MACHINE





THE JOURNAL OF  
**Domestic Appliances**  
AND  
**SEWING MACHINE GAZETTE.**

WITH WHICH IS INCORPORATED THE HARDWARE TRADES' REVIEW.

Vol. XI., No. 164.

MARCH 1, 1884. 149,864 Price, with Supplements, 4d.

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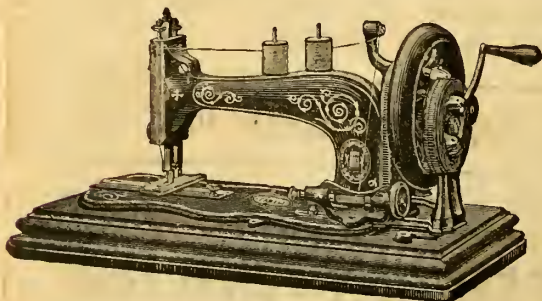
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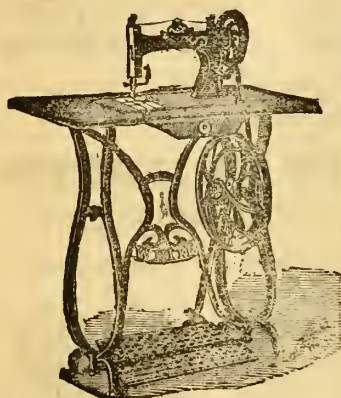
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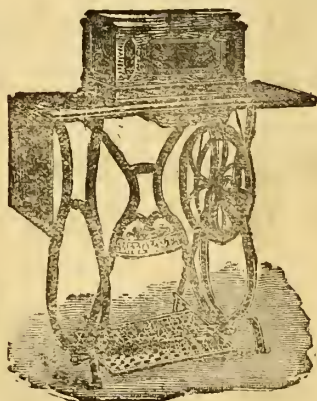
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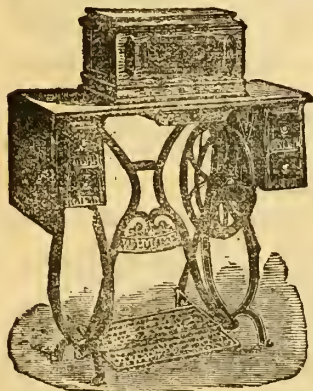
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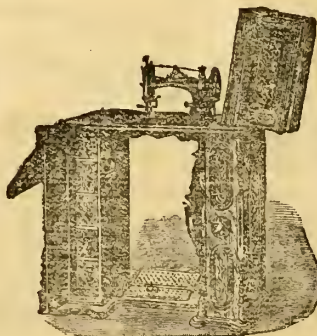
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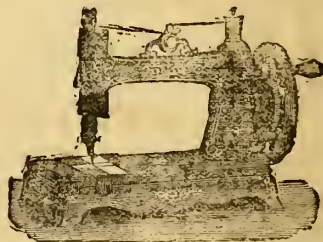
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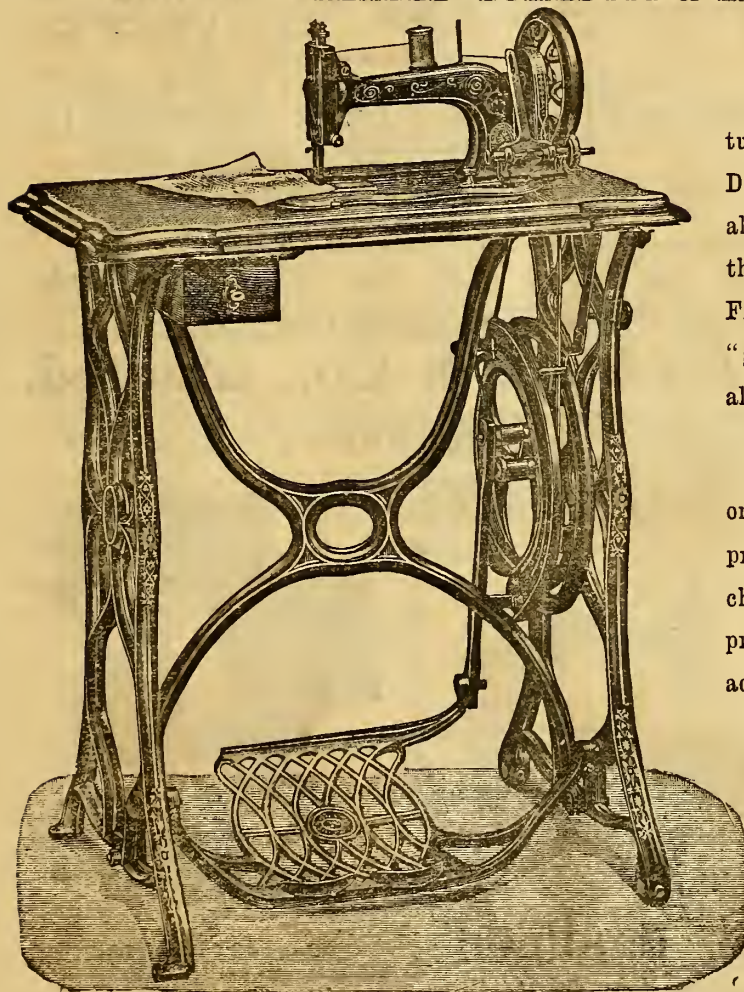
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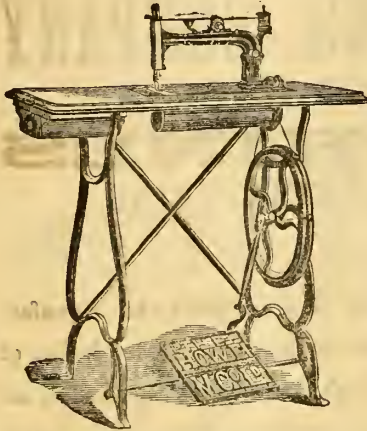
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**THE HOWE BICYCLE, PRICE FROM £15 15s.**

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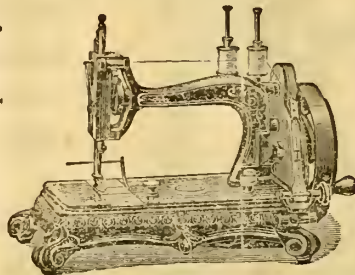
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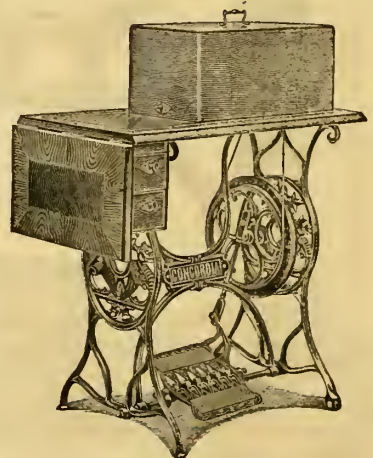
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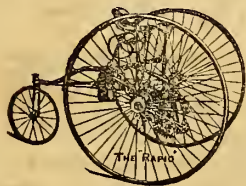
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## THE "RAPID" TRICYCLE.

Dr. BURTON, of 14, SPRING HILL, BIRMINGHAM, in a letter to the *British Medical Journal*, June 2nd, 1883, says:—

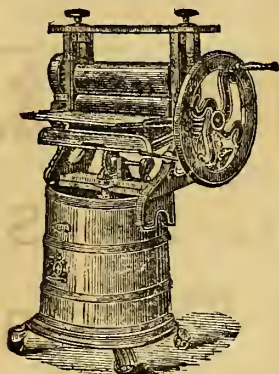


"Last September I bought from the St. George's Foundry Company, Pope Street, Birmingham, one of their "Rapid" Tricycles. It is a double-speeded Machine, enabling one to ascend even steep hills with tolerable ease and at a fair speed. When speeded for ordinary roads it travels at the rate of a little over four yards for each revolution of the crank-shaft, and when geared for hill climbing, at the rate of three yards for each such revolution. In going down inclines, it is thrown out of gear, the feet resting on the pedals, and the pace readily controlled by the brake. It is very strongly built, in proof of which, I have had it out on all sorts of roads since September, and it works easier and is better now than when new.

"I can honestly recommend this Tricycle as serviceable, reliable and economical. In this hilly town I can, with its aid, visit nearly as many patients in a given time as I formerly did with a good horse. But, more than all, in spite of the continuously wet weather we have of late experienced, my general health has improved greatly by this exercise. For five years before I had it I suffered almost constantly from arthritic rheumatism and sciatica; since I have used it both these enemies have disappeared. For night work it is invaluable."

*Full particulars on application to the Patentees and Manufacturers—*

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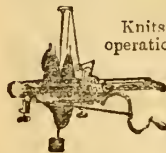
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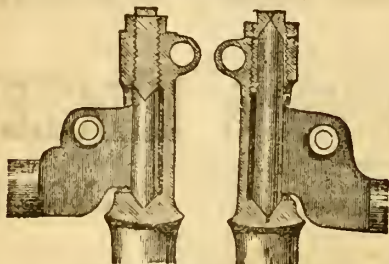
This Knitter obtained the First Prize over others in competition at the Woollen Exhibition, Crystal Palace, London, 1881. 21 New improvements. List 1d. stamp.

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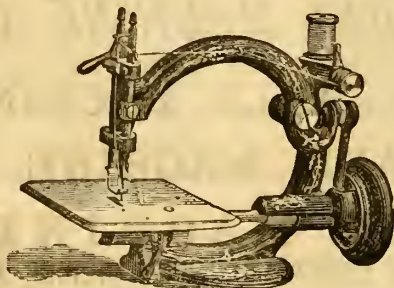
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## MACHINE SILKS

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(Signed) E. M. ROE,  
CHAS. BURNES Y.

Royal Military Asylum, Chelsea, London, Jan. 7, 1881  
Having had three years experience with your sock Knitting Machines, I cannot speak too highly of them both with and without the Ribbing Attachment. They give every satisfaction, and, considering they are worked here entirely by boys, they keep in most excellent order.

(Signed) W. MACDONNELL,  
Quartermaster.

The Workhouse, Great Yarmouth, January 8th, 1881.

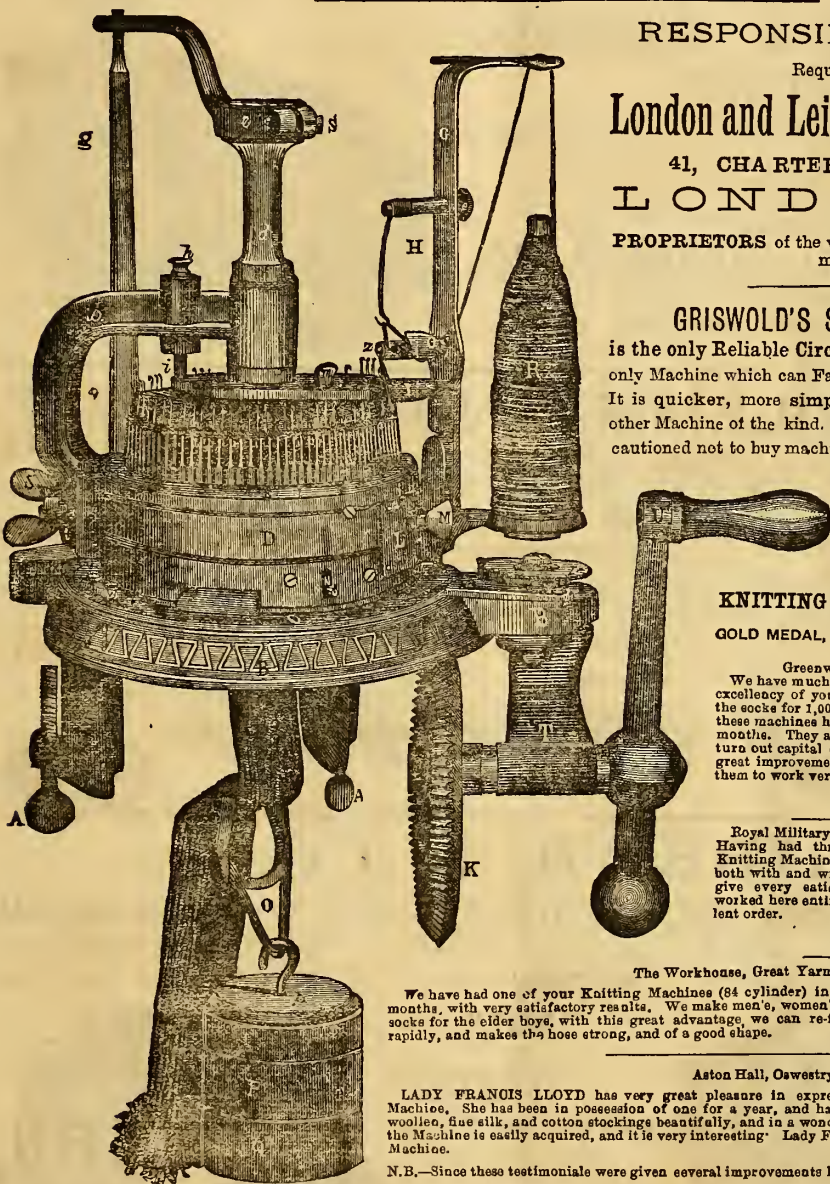
We have had one of your Knitting Machines (84 cylinder) in use in our workroom about twelve months, with very satisfactory results. We make men's, women's, and girls' cotton ribbed Hosiery, also socks for the elder boys, with this great advantage, we can re-foot them when necessary. It works rapidly, and makes the hose strong, and of a good shape.

(Signed) E. S. BLYTH, Matron.

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Complete Apparatus for Driving any Family Sewing  
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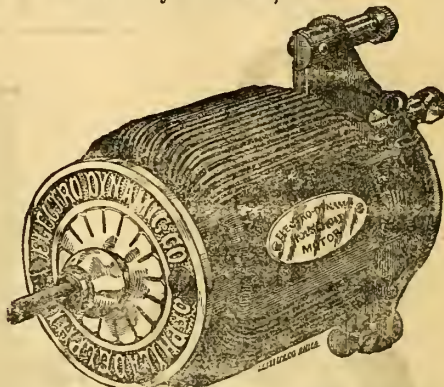
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First Prize Medals Paris and Philadelphia, 1881,  
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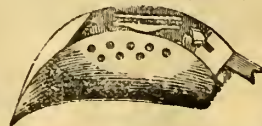
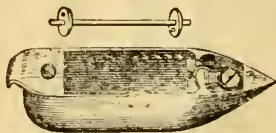
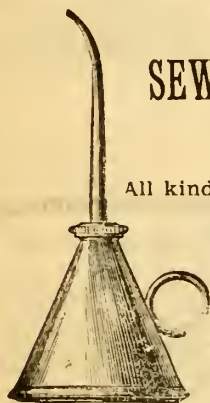


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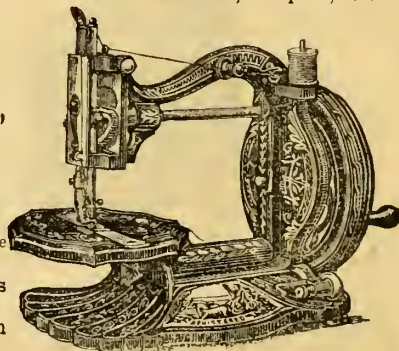
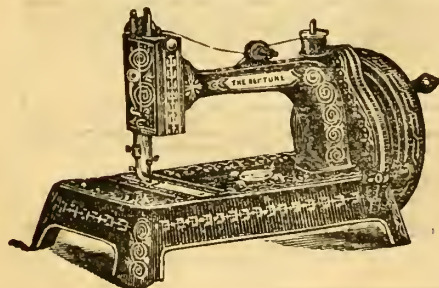
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PRICE LISTS AND TRADE TERMS ON APPLICATION.



## THE NEW IMPROVED WHITE SEWING MACHINE.

**W**ITH that push and energy which has so distinguished the operations of the WHITE SEWING MACHINE COMPANY ever since the introduction of the machine to the European market, a new and improved machine has just been brought out, the mechanical appliances of which most clearly exemplify the inventive genius of the experts of the company. Examining the new machine very thoroughly, we are not disposed to question the pretensions of the company that something akin to perfection has been realised, for the improvements are so palpably self-evident that the most unskilled could not fail to be struck with them when comparing with the recent model. When the White Company first introduced their machine in Europe (and, by-the-way, this company was the first to bring into prominence on this side of the water the so-called high arm machine), the older and long established companies were strongly sceptical of its success, and many of the largest dealers entertained some fears of a lasting success of the novelty as it was then styled. But there was one attribute not then taken into account, in addition to the general excellence of the machine, which the company principally relied upon for a permanent market, that was, the EXTRAORDINARY LIGHTNESS, EASE IN RUNNING, and NOISELESSNESS. This confidence has been fully justified. The machine was quickly placed with the best dealers in England, and in every principal city of the entire continent, and to-day, after but little more than three years' business, is commanding a foremost position in all the markets of the world. In noting the improvements we cannot begin better than by stating that not one jot or particle of the peculiarity of its merit as a NOISELESS and LIGHT RUNNING MACHINE has been sacrificed—in one respect rather improved upon—for some ingenious alterations in the screwing up of the stand parts have increased the running power without the slightest extra exertion, and the vibration has been materially lessened. In the appearance of the machine head, a vast improvement is at once observable. Without diminishing the abundance of room under the arm (a salient point not to be overlooked) the arm itself has a more shapely look, while the decoration cannot be excelled. Removing the face-plate the innovations in the working parts are clearly apparent. We shall not, however, dispose ourselves to give a lesson for the benefit of imitators in these alterations, but simply describe the results. The old style take-up is abolished and replaced by one of an entirely new principle, whereby the operator has no THREADING whatever to do. The upper tension is removed from the arm entirely, simplified more in threading, placed on the face plate, and thus brought nearer to the needle. An improvement has been effected in the shuttle carrier with advantage; the shuttle itself, with its self-threading merit, was so perfect that no alteration has been found to be necessary. A separate spindle is now used for the cotton for bobbin winding, thus obviating the necessity of removing the spool of cotton used in sewing. The automatic bobbin winder has been subjected to some changes for the better, while the loose wheel connection for disconnecting the working parts, while bobbin winding has been materially improved.

That the new machine has been appreciated is amply attested by the increased business of the company. We hear of large orders from all parts of Great Britain, while our foreign correspondence denotes that the "White" is swiftly becoming a power in the land, much to the dis-

comfiture of its competitors. This change of front has been, so to speak, a back-hander to some of our German friends. No less than three manufactories were busily employed in making and placing on the market a close imitation of the "White," but of the old model. This fact alone is very complimentary to the success of the original machine, and as it is a well known fact in the sewing machine trade that the original will always be preferred to any imitation, however excellent, it remains now to be seen whether these pushing competitors, who are not above desirous of thriving upon the brainwork of others, will go to the expense of abandoning the old model to manufacture the new, the more especially as we understand that the most valuable of the alterations have been patented in Great Britain and abroad.

The White Machine was justly awarded the gold medal at the International Exhibition, at Amsterdam, and we naturally expect in the forthcoming exhibitions at Antwerp, Turin, Nice, and Sydenham, that history will repeat itself. The announcement of the Company that the White was the only machine of American or English manufacture that obtained this distinguished award has, however, given great umbrage in some quarters, and fierce has been the warfare, particularly abroad, between the energetic agents of the White Company and the representatives of a company who obtained one of the several diplomas of honour granted. Acrimonious advertisements have been printed, and even law suits have been threatened; but even competition of this kind only serves to stimulate business, and so long as no actual misrepresentation is made no harm is done. For the benefit of our subscribers in the trade, however, we publish the following from page 15, No. 8, of *The Sewing Machine*, a trade journal published in Holland, in three languages:—

"Mr. Clemens Müller, member of class 42 of the International Jury of the Amsterdam Exhibition, publishes what follows—

"As I had the honour to be appointed by the Chancellor of the German Empire as Juror for the Colonial Exhibition of Amsterdam, I was in this quality, and as the only expert and man of the trade for sewing machines in class 42, appointed to examine, not only the German sewing machines, but also all those of foreign manufacture, and to claim for them eventual awards. The Singer Manufacturing Company had exhibited a very large number of machines, until now offered in Germany under the name of "Original Singer Sewing Machines," moreover, however, a great many machines of more recent construction, of which, as far as I know, only a few samples have found their way into Germany. After a scrupulous and essential examination, I could not claim any award for the former, viz., for the machines which at that time were sold in Germany, as they were by no means equal with the others, and principally with the products of most of the German manufactories, compared to which they were of inferior quality. For the machines of more recent construction, however, I could claim a diploma of honour, which, in consequence, was awarded to them by class 42 of the International Jury."

Visitors to the Amsterdam Exhibition will have no difficulty in recollecting that the machines alluded to "as of more recent construction" were essentially machines for special purposes of manufacture; therefore, the award of the gold medal to the White Sewing Machine Company for the excellence of their purely family sewing machine was the more gratifying.

## ART IN EVERYDAY LIFE.

**M**R. J. O. NICHOLSON lectured early in the past month in Townley-street Schools, Macclesfield, on a subject with which he has made himself thoroughly well acquainted—"Art in Everyday Life." There was a large audience present by invitation of the Mutual Improvement Society. The Rev. G. J. Allen presided, and on the platform were Alderman Wright, J.P., Alderman White, J.P., and Mr. H. Birchenough, M.A. On and around the platform were examples of wall-papers, silk, damask, lace curtains, embroidery work, pottery, metal ware, &c. The lecturer was briefly introduced by the chairman.

Mr. Nicholson, in the cause of his lecture, said: It is necessary to know what we mean or understand by "art." Man needs clothing, housing, implements or tools, for assisting him in his labours. These are all useful; man looks around upon the world in which he lives and he sees the useful possessing features which give to certain senses he possesses pleasurable emotions. These feelings of pleasure are excited in regard to features which lie outside the region of the simply useful. The grass of the field might have been simply green, not spangled with its myriad contrasting colours, or its own colour might not have been of the hue so refreshing. The sky above us might not have been of the hue so glorious, its depth might not have been jewelled by the golden star-world. Nature might have presented to the eye one dull monotone instead of the ever-varying delight of hill and dale, of sky and sea, of foliage and flower. Man has thus instinctively been led to desire in the work of his hands, in those surroundings which his necessities demand, some trace of the beautiful which he may see on every hand wrought by the Creator of the earth and the heavens. The faculty of seeing the beautiful in nature is possessed by some in a larger degree than by others, but it may be implanted by education, and increased by observation.

Having realised the beautiful in form and in colour, man has sought to express it in the building of his house and the rearing of his temple; in the decoration of his home, and the ornamentation of his vesture. The clay bowl he made to hold the water he wished to preserve he traced with rude drawings; the oar, the canoe, the weapon he carved with rough portraiture, yet full of interpretation of the varied moods of nature. His love of the beautiful, in his desire to perpetuate its glories, has lightened the toils of his daily life, and the tomb, the last resting-place in his sojourn here, has always received the loving tribute of beautiful symbolism, or the expressions of varied human emotion. I think we may say that it is the visible manifestation of the desire to express various phases of the beautiful that we call "art," and, moreover, let us remember that it is, in the words of Mr. Gladstone, "the intelligent worship of beauty and the effort to produce it which constitute the basis of all excellence in art."

It is Mr. Ruskin who says, "Art, devoted humbly and self-forgetfully to the clear statement and record of the facts of the universe, is always helpful and beneficent to mankind, full of comfort, strength, and salvation." It cannot be but the truest wisdom for any student of art to sit at the feet of so eminent and eloquent an exponent of art teaching as John Ruskin. He points out that good art always consists of two things: "First, the observation of fact; secondly, the manifesting of human design and authority in the way that fact is told. Great and good art must unite the two; it cannot exist for a moment but in their unity," and he

adds, "No great school ever yet existed which had not for primal aim the representation of some natural fact as truly as possible."

It will be useful for us to store in our memory that Mr. Ruskin indicates that there have been in the world but three schools of perfect art, schools which did their work as well as it seems possible to do it. These were, first, the Athenian School, which had for its end and aim the representation of the natural form of the human body, showing it in the spirit of their architecture and in the form and decoration of their pottery. Secondly, the Florentine School, which aimed at the perfect expression of human emotion, representing the effects of passion in the human face and gesture. Thirdly, the Venetian School, whose greatness is founded on the single and honest effort to give the most perfect representation possible of colour, and light, and shade as they effect the external aspect of the human form, and its immediate accessories, architecture, furniture, and dress. It is our object, however, to speak briefly of art as it may influence our everyday life. We leave the higher life in art for certainly a lower form, but, as certainly, if we must decorate with true feeling, not for a degraded form. There must always be in decorative art a fitness for place, for use, for material; the highest art the world has yet produced has been fitted for a place, intended to fulfil a certain purpose.

Mr. Ruskin enforces his teaching as to the three great schools of perfect art by illustrations, first in the Athenian he instances the "Thesens" of the Elgin marbles, the sculpture of Phidias for the decoration of the temple front; in the Italian he takes Raphael's "Dispute of the Sacrament," the fresco decorating a wall in the Camera della Segnatura in the Vatican; and for the Venetian School he brings before us the "Marriage at Cana," by Paul Veronese, a painting manifestly for gallery decoration. His deduction is that "the greatest decorative art is wholly unconventional, good painting and sculptures, but always fitted for its place, and subordinated to the purpose it has to serve in that place." In like manner let us use the highest form of decorative art so long as it is, and to the extent that it is, fitted for the object we seek to beautify. But when we come to the everyday things of life we must select a decoration which will stand the wear and tear of daily use, an ornamentation which, when in use, will not, from its very character, become distorted, or put out of shape, or made by its position to become ridiculously imperfect. In other words, "the lower the place and office of the thing, the less of natural or perfect form you should have in it." "A zigzag or a chequer is thus a better, because consistent, ornament for a cup or platter than a landscape or portrait is." The departure from this principle has resulted in much false ornament, much unreality, much abominable sham, and so ingrained has the use of such meretricious decoration become in the nature of many that even long years of work on the part of those who love and value true art have failed to banish it from our midst. To a large extent the love of show has to bear the blame; we have been, as Mr. Lewis F. Day says, "led astray from the simplicity and modesty that are at the bottom of all good work, and that should especially characterise the art that we live with every day." We are glad to believe that men are now enquiring as to what is right in decoration, how best to beautify the familiar matters of everyday life, and to like students before me, let me point to the writings of such men as John Ruskin, William Morris, Richard Redgrave, R.A., and Edward J. Poynter, R.A. The aim will be two-fold, not only to give pleasure to the



man who uses, but also to give pleasure to the man who must make. Our object should be, must be, if true art must prevail, to influence almost every variety of industrial occupation—whether it be house-building, house-painting, joinery and carpentry, smith's work, pottery and glass making, and all manner of weaving, and many others.

We know the cottage-house of the last thirty to fifty years, built by the dozen, whole streets of them all alike ugly, the painting inside and outside to match. How different to the picturesqueness of the old Cheshire black and white building, or the gabled fronts of some of the oldest houses remaining in our town. Look at the sham of much of the joiners' work of modern days, the low ebb to which the art of the potter and glass-caster (not blower) has come, and the miserably inappropriate decoration in design of our various textile fabrics, to say nothing about the horrid colouring which in them is so rife on every hand. Until the people at large are educated in true artistic taste, so long shall we have bad decoration, until the people demand that which is right, and are no longer so ignorant that they depend for guidance on the blind leading the blind, so long shall we have that which is wrong, defying all right principles in construction, in ornament, and in colour. It is not enough that a man should say, "I know what I like;" he should further say, "Am I correct in my judgment?" It is usual for a man to consult his lawyer for legal advice, and to submit to his doctor's direction, as to those who by education and study are qualified to guide; but the same man, in a matter of taste, equally ignorant of art as he was of law or physic, arrogates to himself the position of deciding what is good or bad in art by the dictates of his own likes or dislikes. Mr. Morris sets before us the high aim that all labour shall be not only useful, but also shall be pleasurable. I believe that much labour now without joy might be made full of gladness, but it will not be until the labourer fits himself to understand how that happiness may be brought to him.

There was undoubtedly, in the ages gone by, much more of individual design and work than there is to-day, much less of the division of labour in production than with us; but I do not see how this could have prevailed to the extent that Mr. Morris's words would show; possibly there was in the building of one of our cathedrals more scope allowed for individual art than would be possible to-day, but still hundreds of labourers must have toiled on year after year, simply cutting the stones according to the architect's designs, to build up the magnificent structures which in their future glory existed only in the mind of the creative artist. Do not imagine that because an artist like Mr. Morris holds in high praise all handicraft imbued with artistic aim, that he condemns all mechanical productions. Mr. Morris is possessed with genius which enables him to grasp the science of every work he examines, nor is he content until he has wrested from it every secret it owns. He not only makes the designs for his carpets, his damasks, his wall-papers, and his tiles, but he has learned how to dye the wool, the silk and the cotton he uses; he has mastered the art of weaving in its intricacies, and overcome all obstacles in the production of carpets, rugs, and moreover of pictorial tapestries. Mr. Morris is the handicraftsman as far as he can go, but when he has finished he needs the power of mechanical reproduction to spread abroad the designs he has conceived; without it we could not be the possessors of his wall-papers, lace curtains, or silk damasks. Still the work of the hand, where it can be used, will always surpass mere mechanical labour, and it would be well for us as a

nation if our youth could all be educated in some handicraft which he might use as a means of livelihood or of recreation. If this power were possessed by our masses, their aims would be higher, their achievements greater, and their homes happier and more beautiful.

This is not something beyond the reach of man. Mr. Poynter, in his "Influence of Art on Social Life," says, "That feeling of love for good work for its own sake and pleasure in bringing it to perfection, which is perhaps the most certain evidence of a genuine artistic spirit, was not in former times the property of a few individuals of superior gifts and education; it was the common property of all handicraftsmen, whether possessed of original talent or not;" and he proceeds to state that the Greeks had the same beauty and perfection of workmanship in their more trifling productions as in their most important works. Seeing, then, that we ought all to be capable of gradually improving our immediate surroundings, let us try to see how it might be done. Morris, in his lecture on "The Beauty of Life," says, "If we want art to begin at home, as it must, we must clear our houses of troublesome superfluities that are for ever in our way. If you want a golden rule that will fit everybody, this is it: Have nothing in your houses that you do not know to be useful, or believe to be beautiful." His description of his idea of the fittings necessary to the sitting-room of a healthy person is so good and instructive that I am tempted to give you a portion of it.—"First, a book-case with a great many books in it" (to which I heartily say "Amen"); "next a table that will keep steady when you write or work at it; then several chairs that you can move, and a bench that you can sit or lie upon; next a cupboard with drawers; next, unless either the bookcase or the cupboard be very beautiful with painting and carving, you will want pictures or engravings, such as you can afford, only not stop-gaps, but real works of art on the wall, or else the wall must be ornamented with some beautiful and restful pattern; we shall also want a vase or two to put flowers in, which latter you must have sometimes, especially if you live in town. Then there will be the fire-place, of course, which in our climate is bound to be the chief object in the room." After referring then to the carpet and a possible piano, he says: "We can add very little to these necessities without troubling ourselves, and hindering our work, our thought, and our rest. This simplicity," he adds, "you may make as costly as you please or can; you may hang your walls with tapestry instead of whitewash or paper; or you may cover them with mosaic, or have them frescoed by a great painter. All this is not luxury, if it be done for beauty's sake, and not for show; it does not break our golden rule—have nothing in your houses that you do not know to be useful, or believe to be beautiful." Yes, have your books. Who cannot now revel among his books? If you have free libraries or not, still have your choice, favourite books within reach. As you can afford, have them artistic inside and outside. Let your furniture be honest and sturdy; your wall-paper or painting be simple and pleasing in colour, and let it be in harmony with, or in due rightful contrast to, the colourings of floor or ceiling, of furniture or of drapery. If you have a carpet, let the design be such that you can use it without feeling that you are likely to be tripped up, or that you should avoid the flowers scattered over it as you would a choice bed in my lady's garden. Let your window curtains fold or loop back without destroying the beauty of their design; have thereon no temples, no pagodas, no landscapes. Your pottery should give bright

gleams of sunshine and of colour in your room: avoid printed ornamentation—rather than that, seek plain or varied glazes alone. Then have your pottery to an extent useful. I have seen a room which was a gem of colour alone from its arrangement of flowers in bowl and vase; here a deep green bowl glowing with yellow marigolds, there a black basalt Wedgwood filled with blush roses; now an old high Chinese blue vase flaming with scarlet gladioli; and again, a dark-brown bowl of Linthorpe-ware lit up by a collection of many-coloured nasturtiums, a harmony in rich browns and golds.

So might many a home be brightened and made attractive. I cannot stay to speak of our public buildings, our street defacements by hideous placards, our smoke and grime, our dress with its monstrosities, and yet with to-day in my opinion its many improvements and even beauties. I can only offer for your examination some objects which will to some extent illustrate my remarks. Wall papers with a spray design, and ceiling paper with a tone or colour as preferable to the crude white. Wall papers were also exhibited with Morris's designs. The jasmine, vine, and sunflower, and the trail; rich silk damasks from designs by Morris and Armitage; lace curtains and printed cottons, showing how true decorative art may be found in articles of general use. Mr. Nicholson also exhibited an old hand-made Turkish carpet, remarkable for its subdued colouring and appropriate design; also a Smyrna rug. Embroidery work from Turkey, Bulgaria, Croatia, and from the Macclesfield Embroidery School, the latter receiving special attention from the audience. Amongst the pottery were examples of Chinese and Japanese work, beautiful in design, form and colouring; some choice specimens of Minton, Doulton, Linthorpe, Elton, and Swiss ware; decorative tiles, produced by De Morgan; Indian inlaid metal work and wood carving. Not only were the artistic features of these examples pointed out, but Mr. Nicholson showed how to apply them to the decoration of a home. In conclusion, he quoted Ruskin on the most desirable aims of art teachers in the present day: "For as there is the loftier and lovelier privilege of bringing the power and charms of art within the reach of the humble and the poor: and as the magnificence of past ages failed by its narrowness and its pride, ours may prevail and continue by its universality and its lowliness."

## RECENT IMPROVEMENT IN SEWING MACHINES.

**T**HIS Invention relates to Improvements in Sewing Machines, part or parts of which are applicable for other purposes and it consists in the first place in mechanism for enabling the bobbins or spools of sewing machines when empty to be rewound or refilled with thread without the necessity of removing the spools or bobbins from the shuttles.

This object is effected by causing the bobbins to rotate within the shuttles or the shuttles to rotate around the bobbins. For this purpose the spools or bobbins may be made with a long journal or bearing projecting through one end of the shuttle and so shaped that the bearing can be coupled to a rapidly rotating shaft whereby the bobbin is revolved whilst the shuttle remains stationary or *vice versa*, the bobbin may be held stationary by a fixed coupling, whilst the shuttle is rotated by any suitable rotatory gearing. In either case the thread to be wound on the

bobbin may be guided by a finger or traveller, or by the mechanism hereinafter described to ensure its being evenly laid thereon, and in order to wind the thread on the bobbins of existing shuttles which do not admit of one of the bearings of the bobbin or spool passing through the end of the shuttle, the bobbin is in such case rotated within the shuttle by frictional gearing.

Another improvement in the construction of the shuttle consists in dispensing with the ordinary drag holes which pass through the walls of the shuttle and substituting therefore a slot which may be at either side of the shuttle and of a quadrantal form, the thread being led from the slot to and through one or more drag holes distinguished from those ordinarily in use by not passing through the walls of the shuttle, but passing through holes which are confined to the exterior of the shuttle.

Another part of this Invention consists in substituting for the ordinary driving wheel of the machine, a spring attachment for storing power by means of which the machine is driven and which is, or may be arranged to run for any known length of time. This spring attachment is supported upon a shaft carried and rotating in bearings situated at the lower part of the framing on which the machine is carried, and consists of a cylinder through which the aforesaid shaft passes and upon which the cylinder is carried loosely in any suitable manner. To the interior of this cylinder one end of a spiral or other equivalent spring is attached, the other end being attached to the shaft. Around the outside of the cylinder there is provided the mechanism for operating it which may consist of a treadle and clutch device of any suitable construction, or it may be so formed as to allow of the said cylinder being rotated or wound up to any number of revolutions by hand or by any other equivalent means, such for example as clockwork. Upon the aforesaid shaft there is carried a "sprocket" wheel or its equivalent and around this wheel a chain or band is carried, this band being passed at its upper part around the driving pulley of the machine or around an intermediate pulley for transmitting the motion to the said machine. For equalizing the speed of the cylinder after having been wound up, and released, a "fusee" or equivalent attachment may be applied; the machine is provided with starting and stopping gear.

The driving mechanism afore-mentioned is also applicable to machines other than sewing machines, such for example as bicycles, tricycles or other analogous machines.

For guiding the cotton or thread upon the shuttle bobbin when the same is being wound, or for other analogous purposes, a cam wheel is mounted in front of the bobbin, that is to say, in the position in which it is held within the winder. Upon the periphery of this cam there is formed an endless groove running diagonally across the said cam, the horizontal distance between the extreme points of this groove being equal to the distance which the thread being wound has to travel from one end to the other of the bobbin; so that in every revolution the thread passing over the cam at the groove is carried by it into the position required according to the gradual travel of the same on the bobbin. The necessary motion may be imparted to the cam wheel from the winder by means of toothed, or by any other suitable form of gearing; or it may be geared with the shuttle containing the bobbin when it is used as hereinbefore mentioned in winding the thread on the bobbin.

Another part of this invention relates to the means for setting the needle in the needle bar of the machine. The needle bar under these present improvements is con-



structed so that the needle when placed in the said bar comes against a stop situated at the required distance up the needle bar, so that when the needle is pressed up into the same it is in the required position for tightening up; or the needle may have formed upon it a collar which comes against the lower end of the holder when pressed into place. These improvements obviate the necessity of adjusting the position of the needle as is at present ordinarily required.

Another method of holding the needles in the needle bar consists of splitting the end of the needle bar into two or more parts, and on the outside of these parts a cone is formed upon which a correspondingly shaped collar is forced down and draws the parts tightly around the needle in its act of holding the same. For releasing the needle the aforesaid collar is raised, and thereby the divided parts of the needle bar spring outwards and thus leave the needle free to fall from the holder. A stop may also be fitted to this form of holder so as to obviate the necessity of adjustment.—[Provisional protection has been obtained for this invention by James McHardy, of Dollar, Clackmannan.]

### VARNISH.

THE degree of transparency or paleness is one of the means of determining the grade or quality of varnish; it should resemble a fine syrup in appearance. An essential quality of varnish is that it should harden without losing its transparency—it should never in the least change the color it is intended to preserve. One of the chief uses of varnish is to exclude the action of the air, and it is for this reason that wood and metals are varnished to protect them from rust and decay; it must, therefore, be waterproof, or the effect will not be permanent; durability, in a good varnish, is indispensable. In the best varnish the various ingredients composing it are so combined that they will answer these requirements and at the same time work freely under the brush.

### THE WHITE MACHINE.

WE have received from the White Sewing Machine Company a very amusing pamphlet concerning their machine. The illustrations are very comic, and accord well with the humour of the rhyme, which is as follows:—

Our hero was an artisan  
Who toiled from morn till e'en,  
Until, one day, he met a man  
Who sold the White Machine.

This man the best of clothes he wore,  
And held a lofty mien;  
Ten thousand he had sold, and more,  
Light-running White Machines.

Then straightway went this artisan  
To all his friends of means,  
But found, as soon as he'd begun,  
They all *had* White Machines.

Undaunted still, he boldly planned—  
His eyes bore darksome gleams.  
He said, "I'll seek some foreign land,  
That *ain't* got White Machines."

"'Tis a most visionary plan,"  
Said all—"tho' well he means—  
To be a missionary man  
And sell the White Machines."

But steadfast was this artisan,  
And wiry, spry, and lean;  
So off he went, his only plan  
To sell the White Machine.

He travelled long and very far,  
He braved the wildest scenes,  
From Labrador to Zanzibar  
He took his White Machines.

He never flinched, tho' oft assailed,  
Nor sought his life to screen  
When savage men attacked, nor failed  
To sell a White Machine.

In many lanes he showed his wares,  
In towns and valleys green,  
And taught folks how to "sow their tares"  
By using White's Machine.

He went among the Esquimaux,  
And rode with puppy teams;  
They wanted him for King, because  
Of his wondrous White Machines.

He trod the storied land of Greece,  
And 'mongst Egypt's fallahin;  
He once "patched up a little peace"  
By using White's Machine.

In India and Afghanistan,  
The Republic Argentine,  
Australia, Java and Hindostan  
He sold the White Machine.

Among them all a wondrous change  
This artisan has wrought,  
And yet it is not very strange,  
For White Machines they bought.

The Hottentot now sports a hat,  
The Indian Brave is seen  
In pantaloons and red cravat  
Made on a White Machine.

The Turk now wears a coat and vest;  
In gorgeous garbs are seen  
The heathen "John," and all the rest  
Who bought the White Machine.

The artisan still wanders wide  
(Ten years here intervene);  
The people run from every side  
To buy his White Machine.

In many machine shops, when the tools are set up, very little care is taken to prepare the foundations for their reception. Heavy machines, such as lathes and planers, are often placed upon a floor that is poorly supported, and in time they fall out of alignment.

# THE VERTICAL FEED SEWING MACHINE.

Beyond dispute the only really Perfect Machine yet produced.

AWARDED THE  
ONLY GOLD MEDAL

AT THE  
SYDNEY & MELBOURNE  
EXHIBITIONS,

In Competition with all the leading Machines.



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its Feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking, and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity, and in the greatest perfection of style. The Shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

*Prospectuses, together with Samples of the Work and every information, may be obtained at the Offices of the Company,*

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## SEWING MACHINES—IMPORT AND EXPORT.

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JOURNAL OF DOMESTIC APPLIANCES  
AND

*Sewing Machine Gazette.*

WITH WHICH IS INCORPORATED

THE HARDWARE TRADES' REVIEW.

**P**AWNBROKERS who have received sewing machines that are "out on hire," have not yet learnt the lesson that they are legally bound to give them up to their rightful owners. We have recorded hundreds of cases in the columns of this journal, in which judgment has been given against them, and, as will be found in our Law Intelligence, yet another is added to the list. Agents using properly drafted Agreement Forms, are always sure of regaining possession of their machines out on hire, provided, of course, they can trace them. Pawnbrokers who so frequently test in a court of law this question, which has everywhere been decided against them, have certainly the obstancy of the Jerusalem pony, and in this matter—however shrewd they may be in others—they do not seem much in advance of that brute in sense. We naturally wonder how many more times they will have to smart with the infliction of legal costs before they will cease to resist the just rights of the Sewing Machine Trade. Magistrates in years gone by had doubts in some cases what to do in the matter, but now they have no scruples as to the decision to come to. The law has been laid down for them by their superiors, and they follow it.



## THE ROHDE FRICTION CLUTCH.

THE Davis Sewing Machine Company in America have placed on the market a new device for connecting sewing machines with motive power. It is a friction clutch and brake, invented by Mr. C. H. Rohde, of the Company's Chicago office. This clutch may be used with any of the leading sewing machines in the market, and is well worth the attention of all who use machines driven by power. It is said to be very simple in principle and construction, and in its application and operation it is free from complication. Being simple, it is easily applied and understood, and is not liable to get out of order. It is fastened to the table or bench, and is controlled by a treadle, fastened to the floor and connected with it by a rod. The friction is quickly applied and released, and the action is instantaneous, positive and direct, either in starting or stopping the machine. On the clutch are two belt grooves, corresponding with a like pair of grooves on the delivery shaft or pulley, by which a variation of speed of about thirty-three per cent. may be obtained.

## IN A QUANDARY.

By a TYRO.

A SUPERFICIAL observer, looking over the different sewing machines in the market, cannot fail to observe that there are but two sizes of what are termed "family machines"—the high arm and the low arm. The inference naturally to be drawn from this is that only two lengths of needles might be required for these machines, or possibly only half-a-dozen lengths or kinds. Yet the different kinds and lengths seem to be almost legion. It will be found by examination that the shortest needle is one inch and a sixteenth long, while the longest one is two and a half inches. Then there is a regular grade of lengths from the shortest up to the longest. There is an excuse for different sizes or diameters of needles, but there seems to be a very poor excuse for the fifty or more lengths that are fitted for as many machines.

The query might very appropriately be asked, "Were needles made at hap-hazard, and the machines fitted to the needles; or did each machine-maker have an 'idea' of his own, and make both machine and needle to his fancy, thereby entailing on the needle-maker a necessity to keep a large assortment if he would meet the demands of his many customers, who have each their own length and style of needle?"

Supposing the number of different machines in the market that demand needles to be about seventy-five, and to each machine there may be about six sizes of needles on the average, this will make only 450 packages or compartments in which to keep the needles. It will actually require more than this number, as there are round, flat, twist and cross point needles of about fifty kinds, and of as many sizes as the common needles; this will necessitate about three hundred more compartments in which to keep them—making about 750 kinds to be kept, each by itself.

The quandary is, supposing a case containing all these different kinds to be turned topsy-turvy, how is a Tyro to get them all assorted or put in their proper places? Is there no gauge to determine which is which, or is there not even a "rule" to go by to help any one to get out of such a difficulty? Will the initiated "rise and explain?"

## FINISHING WOOD.

DECORATED sewing machine woodwork being now the fashion, it will not be out of place to mention some of the various means by which woods may be darkened or toned for decorative effect.

Logwood, lime, brown soft soap, dyed oil, sulphate of iron, nitrate of silver exposed to sun's rays, carbonate of soda, bichromatic and permanganate of potash, and other alkaline preparations are used for darkening wood; the last three are specially commended. The solution is applied by dissolving one ounce of the alkali in two gills of boiling water diluted to the required tone. The surface is saturated with a sponge or flannel, and at once dried with soft rags. The carbonate is used for dark woods. Oil, tinged with rose madder, may be applied to hard woods like birch; a red oil is prepared from soaked alkanet root in linseed oil. To give mahogany the appearance of age, lime water used before oiling is a good plan. In staining wood, the best and most transparent effect is obtained by repeated light coats of the same. For oak stain, a strong solution of oxalic acid is employed; for mahogany stain, dilute nitrous acid. A primary coat, or coat of wood-filler, is advantageous.

For mahogany stains the following are given: two ounces of dragon's blood dissolved in one quart of rectified spirits of wine, well shaken; or raw sienna in beer, with burnt sienna to give the required tone; for darker stains boil half a pound of madder and two ounces of logwood chips in one gallon of water, and brush the decoction while hot over the wood. When dry, paint with a solution of two ounces of potash in one quart of water. A solution of permanganate of potash forms a rapid and excellent brown stain.—*American Sewing Machine News.*

## THEN AND NOW.

When this old hat was new,

The railroad was a stage,

And a six-mule team made plenty of steam

For the broadest kind of gauge.

You caught a goose when you wanted a pen,

The ink we used was blue,

And the women you loved didn't want to be men,

When this old hat was new.

A spade was only a spade.

And Jennie was just plain "Jane,"

For his impudent lip a boy would skip

At the end of a rattan cane.

There were sixteen ounces in every pound,

Four quarts made a gallon true;

But things don't seem like they used to be now

When this old hat was new.

But we've shortened the time since then,

And we're running a faster heat,

And the boys of ten are full-blown men,

Who run the store and the street.

We blush to giggle, and we should smile;

And we're cute, and we never say die,

We're up to snuff, and we're full of gulle,

And we're just too awfully fly.

And father is Governor, old man, dad,

And his old day is gone;

We run things fast, and a little bad,

Since we put this new hat on.

## WHY HE FAILED.

THERE have not been very many failures among sewing machine dealers of late, but those who have gone by the board have collapsed from good and sufficient causes, entirely apart from business depression. A dealer in a small New York town, when called upon after January 1st by a traveller for one of the companies with a view to settling up, expressed his inability to do so, and, when the reason was demanded, he answered, very naturally:

"Well, the first cause was losing my mother-in-law. The funeral cost me a couple of hundred dollars—a hard knock to be sure, but I could easily have recovered from that."

"Of course," replied the traveller.

"Then," continued the bankrupt, "you know I was thrown out of my buggy and laid up for several days, but the accident could only temporarily dampen my energy as a sewing machine man."

"Certainly; only a day or so."

"Then my best salesmen left me to go to a rival dealer, who was willing to pay them a dollar a week more salary. I let them go on principle, for it's against my principles to raise wages. There were plenty of canvassers knocking around, and I took the first that came to hand. Trade fell off some, but not to an alarming extent."

"Indeed!"

"Then my wife took a heavy cold, and I had a big doctor's bill to pay."

"Too bad."

"But all these things could not have made me bust up. I could have withstood such little misfortunes. What finished me, Sir, was 'cutting prices,' and the poor man sighed as he shook his head. 'Yes, Sir; not a week after I got my fall stock of machines, Slasher, agent for the Scrub machine, began to drop on prices, and whenever I saw anyone in his store looking at machines, or saw his waggon delivering one at a house, it made me so mad that I marked all my stock below cost, as I was determined to keep the trade at all hazards. It is a wonder I kept up as long as I did.'"

The traveller made the best settlement he could, and wrote the company that it was a case of the "old, old story."  
—*American Sewing Machine News.*

## THREAD-WINDING ATTACHMENT FOR SEWING MACHINES.

THIS invention has for its object to automatically wind the thread on the bobbins intended for the shuttles of sewing machines.

For this purpose the inventor screws a horizontal rod to the iron baseplate or table of a sewing machine, which rod projects over the table and carries a boss which forms a guide or bearing for a vertical post made vertically adjustable in the boss by a set-screw. The post terminates at the top in a horizontal sleeve enclosing a coiled spring acting on a slide or spindle. The spindle projects over the inner side of the sleeve and serves to hold one extremity of a bobbin or spindle placed with its other end against the fly-wheel or hand-wheel of the driving shaft. The vertical post is secured, so as to be vertically adjustable along the same, a horizontal thread-guide made

straight at its base and curved into a semi-circle towards its free end, which is slightly bent upward.

The table has an eyelet opposite the centre of the bobbin, through which eyelet the thread unwound from a supply-spool is led before it passes over the thread guide (which is provided with a notch) to the bobbin or spindle on which it is to be wound.

The core or spindle of the bobbin has two flanges of unequal diameter and is pointed at both ends. If used with a curved thread guide as described, the main portion of the spindle is cylindrical; if used without the thread guide, it is made thinner in the centre than towards the flanges.—[Provisional Protection has been obtained by Mr. H. J. Haddan, of Kensington, on behalf of Anatole Tabo[u]r Moisson, of Paris, France.

## INFALLIBLE METHOD OF KEEPING NEEDLES FROM RUSTING.

A CORRESPONDENT has sent us the following, and recommends it strongly for keeping needles from rusting:—My plan is both simple and cheap. I place in each needle-tray a small quantity of soap stone, reduced to a fine powder, such as shoemakers use. When I put new needles into the tray, I take one of them and turn and roll the others in the soap stone powder, so that every part of their surface comes in contact with it. In over nine years' experience of handling sewing machine needles daily, I have not lost a single needle from rust.

## LAW.

### SEWING MACHINES AND PAWNBROKERS.

In the Bow County Court on the 15th ult., before S. Prentice, Esq., Q.C., Judge; Mr. Haynes, solicitor, appeared for the plaintiff, and Mr. Willis for defendants. W. Girtton, a dealer in sewing machines, of 106, Bow Road, E., sued Messrs. Benjamin and Lewis Hammett, pawnbrokers of Lombard House, Barking Road, Essex, for the recovery of a Bradbury's Sewing Machine, or its value—£7 10s., that had been let on hire by the plaintiff to one Elizabeth Spearing, and which had been found in the possession of the defendants, who refused to deliver it up. Judgment for the plaintiff with full costs, and the machine to be sent to the plaintiff's shop within seven days, or the amount claimed (£7 10s.) paid.

In every shop there must be tools for general use which are not individual possessions. If each successive user mislays a tool that is intended for general shop use, the aggregate of time lost in seeking for it may amount to a serious waste. Drills, taps, reamers, boring-bars, arbors, milling tools, wrenches and other implements may be intended for the general use about the shop, but when not in use they should have their proper place, so that no time would be lost in searching for them. The last user should leave them in proper condition. In every large shop a repairer or sharpener should be assigned to keep tools of this class in proper condition.

ARE all things what they seem? Not always. A sewing machine seems broadcloth sometimes, but it is iron and steel all the same.

To re-cut files and rasps by a chemical process:—Dissolve four ozs. of salaratus in one quart of water, enough to cover the files, and boil them in it half-an-hour. When taken out, washed off and dried, they should be allowed to stand for a time in a jar filled with rain water and sulphuric acid in the proportion of one quart of water and four ounces of acid.



## COMMERCIAL TRAVELLERS.

EDGAR POE once referred to an individual as "neither a man nor woman nor a Mary Woolstonecraft," but a combination of all three. According to a harsh and too general idea, the Commercial Traveller is neither a business gentleman nor a shop-walker nor a light porter, but might be best described as a compromise among the three. Commercial Travellers suffer much injustice in regard to the public estimate of their character. The best of the class are born for their special work—though there is little glory about it—as generals are born for strategy, or geographical discoverers for travel. There is no grace of manner, no delicate insight into character, that does not serve the Commercial Traveller sometimes; and thus the more he is a gentleman, the better he is at his work. On the other hand, there is no kind of petty insult that he may not have to receive unwincingly from those whose favour he tries to win. In order that he may endure the fatigues of his occupation, it is indispensable that he be naturally a strong healthy man. If he succeeds in always preserving his dignity, it must be worn as a sort of under-garment, unseen. "All things to all men" must be his motto in his itineraries. To the customer who is evangelical in season or out of season—such customers there are—he must bear himself with a subdued air of a tract distributor; to the jovial customer he has to exhibit such social virtues as he can command. He has often to be kept waiting on the customer's leisure as if he were an errand boy. He will now and again have to wait patiently in his stock-room for half-a-day, expecting the customer who does not keep his appointment; and yet on the morrow he must be as smilingly ready as ever to make another appointment, or carry samples to that customer's shop. When the Dissenting draper insinuatingly puts before him a subscription list for the building of a new chapel (and such a case is frequent, particularly in Wales), he must lay down his guinea or half-guinea with the urbanity of a philanthropist, if he sees his way to any "lines" afterwards. His work takes him abroad in all weathers. He performs many a weary train journey, oftenest third class, when he wishes to save anything out of what are termed his expenses. He must be out of doors and doing before nine, for those whom he visits must be caught before the shopping folk begin to drop in. His evening hours are largely at the mercy of these same patrons of his, any of whom may chance to appoint ten o'clock at night for an interview. At twelve or one even, when the Commercial Traveller has finished his rounds, taken all the orders, and dispatched detailed duplicates of these to head-quarters, circumstances may render it necessary to pack his numerous boxes and bags ready for an early start by train on the following morning. Fortunate, indeed, is the Commercial Traveller who enjoys Sunday in the bosom of his family more than once in three weeks. He may be away from his wife for months, and even—if he be a foreign traveller—for two years at a time. What an un-ideal tourist! When he visits York, what are its antiquities to him—to a man full of the latest novelties in fancy goods or soaps? Has he time for the Parade at Brighton, or the Spa at Cheltenham? He reckons the grandeur of a place by the quantity of its trade, and like Napoleon, he is apt to regard us as entirely a nation of shopkeepers. Very absorbing such an occupation must be. There are few rewards in it, however. The real geniuses of the "road" certainly become in due time possessed of such experience as leads them to partnerships either in the

houses originally employing them, or with other business acquaintances. Even in such cases, however, it not unfrequently happens that the Commercial Traveller's successful zeal has impaired his health to some extent. It is not one in fifty, however, who attains such a position. Most men who begin on the road die on it.

The ordinary uncommercial person has probably but two sources of information regarding the class of people we have been describing. He remembers the various allusions of Dickens to that mythically mirthful individual, the bagman, whom it was always a joy to meet beside a comfortable inn fire; and he has read Samuel Smiles' "Life of George Moore." Whether the George Moore of Mr. Smiles is not as charitably coloured as Dickens's bagman we will not undertake to say. This we will say, however—that Commercial Travellers, as a body, think less of that really remarkable merchant's memory than his biographer, and generally believe that, with regard to his hero's early exploits "on the road," Mr. Smiles must have allowed himself to be somewhat misled. Times have, no doubt, changed in this sphere of life, as in others. It is, indeed, possible, if not very probable, that, on the memorable occasion of George Moore's trade race with a rival at Manchester, the other Travellers in the hotel so admired his spirit that they turned themselves into a little army of assistants to pack his goods for him. Things may have been so, but assuredly they would not admire his spirit now, and still more certainly they would not pack his samples for him. Nowadays—it may be for lack of enterprise, though that is unlikely, considering the stress of competition—the "Commercial" seldom aspires to doing all the trade in any district. If he does, he is pretty well ostracised from the company and respect of his brethren. It is, indeed, much more common than most people would imagine for men travelling the same road with the same class of goods to introduce customers to each other; but such reciprocal courtesies, of course, would only occur between travellers representing high-class firms, and sure of the quality and reputation of their manufactured articles. This kind of spirit is a sign of such times as put an end to "Napoleons of the road." But on the other hand commercial travelling is so methodised and extended that the bagman would be the veriest amateur if resuscitated now. In the days which Mr. Pickwick is supposed to have adorned, perhaps there were three or four thousand bagmen. At present—as Mr. W. H. Smith stated a few weeks ago—there are at least thirty thousand Commercial Travellers traversing our country. Some number the body as consisting of forty thousand. This total, however, is only arrived at by including outsiders, who do not properly come under the required description, and who, as a rule, are the people to bring discredit, in various ways, on the name they assume.

The round of a "Commercial's" journey begins each time with a day or two at headquarters, when he examines new stock, receives instructions as to what should be specially pushed, discusses orders, payments, debts, and customers with his principals, and sees that his samples are packed in due array. If he be a "light" Traveller—an agent for needles or paper, for instance—his samples can be carried in his hand, and luggage does not trouble him. If he be a "heavy" man, travelling with carpets, say, or ironmongery, he may have to employ as many boxes of sample wares as will weigh four tons. Such stuff he sends on by goods train before him. He has to look

sharply after the transit officials, otherwise he finds himself in the position of Mr. Jingle, whose luggage so constantly failed to overtake his brown paper parcel. Another matter for watchfulness is overcharge for baggage, by no means unfrequent through the carelessness of clerks weighing or classifying it. On arriving at the first town on his list, the Traveller claims his impedimenta, and drives to the hotel to secure bed accommodation and a stock-room. The hire of a stock-room will average four shillings a day. If he arrives in the town at an early hour, the Traveller probably defers opening out his samples until he has gone round and made appointments with his customers. Such of these as insist on being attended at their own shops will be visited, perhaps, on the morrow, with the aid of a "barrow-man," who drags the samples about all day for four shillings. Customers calling at the hotel do so, as a rule, early in the morning, or in the evening. Each customer must be shown over the stock separately, and in the case of such goods as ironmongery, it may happen that it takes Traveller and shopkeeper a whole day, or even two days, to go over all the samples. Even this case, nevertheless, is not the extreme. An ordinary ironmongery Traveller represents a firm manufacturing only a certain proportion of goods required by the tradesman. In the hardware line, however, there are itinerant "factors," chiefly representing Birmingham houses. These factors undertake the supply of articles manufactured by all kinds of firms. The amount of luggage and patience a factor must carry about with him can therefore be guessed at.

The middle of the day is the time when the Traveller eats his lotos leaf. The shopkeepers are busy with their retail customers then. The great institution among "Commercial"—the sort of Everywhere Club—is the commercial dinner. The usual hour for this is a quarter past one. The latest arrival at the hotel takes the chair as vice president; the gentleman longest in the house for the time being acts as president. The dinner is arranged at a fixed charge, and the rule is that each diner is supposed to consume wine to the limit of a pint. Accordingly, a few bottles of sherry may be passed round. Then port may follow. And so on till the average consumption of a pint has been reached. The president, who may happen to be really the youngest man in the room, keeps order, and the vice-president usually checks the score. The whole dinner averages five shillings per head. Formerly teetotallers had to contribute their share towards the wine bill, although they did not touch the decanter; but it is now beginning to be recognised as a rule that such abstainers need only pay an extra shilling for the good of the house. Dinner lasts an hour, and after that has elapsed the active men are once more at business. He is lucky who can play a few games of billiards in the evening, or go to the theatre, without neglecting some appointment. Several days may be spent before the heavy man, of whom we have been chiefly speaking, is ready to pack up his traps for the next town. The light man, on the other hand, may possibly cover the same ground in a forenoon. Such is the work and the life of Commercial Travellers. "That desire of knowledge," wrote Charles Lamb's Duchess of Newcastle, "makes every place wearisome." One might imagine that the saying, with "orders" substituted for "knowledge," might sum up the philosophy of the Commercial Traveller. No one, however, who has dined at a commercial table can have failed to gather that the members of this trade-fraternity are cheerfully-dis-

posed men, mostly possessed of healthy minds in healthy bodies.

Although, for public objects, Commercial Travellers have not amalgamated themselves into any association they have made several combinations for the furtherance of benevolent schemes within their own circle. The first of these is the Commercial Travellers' Benevolent Institution, at the annual dinner of which Mr. W. H. Smith lately presided. This Association was founded at Penzance, in 1849, by three or four travellers who conceived the notion that thrift and charity might be furthered more systematically by a benevolent organisation of the kind. The object of the Institution, according to the deed of foundation, was "the establishment of a fund for the relief of necessitous Commercial Travellers, being members, who were aged, or incapacitated from earning a subsistence, and for their widows, and for no other purpose." The same deed declares that the words "Commercial Traveller" were to be "understood as describing persons only on whose behalf satisfactory evidence should be offered to the Board of Management that they were employed in that capacity, and had travelled in the country for two years or more, and at least six months on an average in each year." Membership in this self helping body is constituted by the annual subscription of one guinea, and, of course, large firms are invited to support it also with heavier contributions. The Institution has now assumed the position of a thoroughly well-to-do body. Since 1851 it has spent sixty-three thousand pounds in relieving indigent claimants on its funds, and during the last year its income has amounted to over eight thousand pounds. That there is still room for the Society's progress may be gathered from the fact that as yet, out of a total of thirty thousand, only three thousand travellers subscribe to it; but every year results improve.—*Standard*.

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Wood requires time in which to season very much in proportion to the density of the fibre. Pine, however, though it requires a long time to season, is an exception to the rule, being by no means a densely-fibred wood. Some woods are fit for use as soon as cut, requiring no time for seasoning, like mahogany and ebony, which even when in the natural state have very little moisture in them.

A RECIPE for cleaning and removing the leather belting which has become soft and useless from oil:—If the belting is not brittle or rotten, a thorough wiping off of the excess of oil, and scraping the face with a sharp tool to take off the gummy matter, and finally wiping the inside with a little naphtha upon a cloth, will generally restore the belt. The pulley should be cleaned also; and then the efficiency of the belt can be increased by rubbing the inside with a piece of beeswax, applying only a little. If the belting has become weak and rotten it should be thrown away.

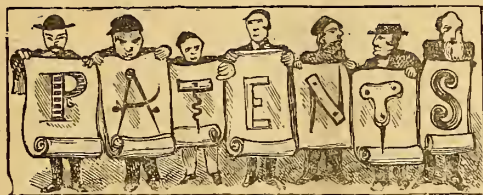
We deserve to be well lashed for asking such a question, but what made the cow-hide?—*Ex.* It is made of the same stuff as ox-hide, and everyone ought to know about oxide of iron.

It is announced that an "up country" man is preparing a book on pipes and smoking. Such a work should be illustrated with a fine-cut or two. It may, however, turn out to be a mere-sham.

We can stand almost anything so far as human endurance is concerned; but deliver us, above all things, from the jabber of the ancient maiden with a grievance against her married sisters.

New York had another wild steer on the rampage the other day, and the captain of a canal boat asked the drover why they called 'em steers, when they don't steer worth a cent.





*The following list has been compiled expressly for this Journal, by Mr. G. F. Redfern, Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.*

### APPLICATIONS FOR LETTERS PATENT:—

- No. 1439. J. Parry, of the Eagle Foundry, Birmingham, for an improved self-acting fastener for french windows, double doors and book cases, wardrobes, cupboards and the like. Dated January 15, 1884.
- „ 1443. W. H. R. Bradford, of Norfolk Square, Hyde Park, London, for improvements in corkscrews, gimlets and other tools to which a rotary motion can be applied. Dated January 15, 1884.
- „ 1446. S. Bennett, of Stretford, near Manchester, for an improved blind pulley. Dated January 15, 1884.
- „ 1447. J. E. Dodd, of Liverpool, for improvements in or appertaining to bolts, for the purpose of making them more secure. Dated January 15, 1884.
- „ 1454. A. J. and H. C. Needham, both of Hammersmith, London, for improvements in portable or table fountains. Dated January 15, 1884.
- „ 1469. J. Heselwood, of Leeds, for improvements in the construction of oil-cans. Dated January 15, 1884.
- „ 1476. A. D. Turner, of Old Ford, and W. Flatau, of Highbury Quadrant, London, for improvements in lamps for burning gasoline, alcohocarbon, paraffin, or other liquids. Dated January 15, 1884.
- „ 1493. J. and W. Roper, both of Birmingham, for an improved hollow spindle hall-door knob, bell, letter-plate, name-plate and house number combined. Dated January 16, 1884.
- „ 1495. W. F. Alcock, of Birmingham, for improvements in door bells. Dated January 16, 1884.
- „ 1508. J. F. Atkinson, a communication from J. W. Otto, of Copenhagen, Denmark, for improvements in egg cutters and similar articles. Dated January 16, 1884.
- „ 1514. W. Wade, of Leeds, for an improved self-adjusting sash fastener. Dated January 16, 1884.
1515. D. Jackson, of Batley Carr, near Dewsbury, Yorkshire, for improvements in apparatus for cleaning and polishing knives, forks and other articles. Dated January 16, 1884.
- „ 1520. B. Haigh, of Glengall-road, Cubitt Town, for improvements in water waste preventors. Dated January 16, 1884.
- „ 1533. C. Showell, of Birmingham, for an improvement in the manufacture of metallic sash lifts. Dated January 16, 1884.
- „ 1534. W. Avery, of Headless Cross, near Redditch, Worcestershire, for an improvement in the manufacture of metallic needle cases. Dated January 16, 1884.
1542. E. Maylor, of Bradford, for improvements in ovens. Dated January 16, 1884.
- „ 1552. T. D. Griffiths, of Swansea, for improvements in means or apparatus for lighting, ventilating and heating rooms by means of gas. Dated January 16, 1884.
- „ 1553. T. D. Griffiths, of Swansea, for improvements in or connected with domestic fireplaces. Dated January 16, 1884.
- No. 1570. Max Am Ende, of Westminster, London, for improvements in presses for copying letters and like purposes. Dated January 16, 1884.
- „ 1583. O. and F. Robinson, both of Kettering, Northamptonshire, for improvements in machines for sewing and joining straw-plait and other purposes. Dated January 17, 1884.
- „ 1588. J. Hummerston, of Leeds, for an improved bolt for doors, windows, shutters, &c. Dated January 17, 1884.
- „ 1596. W. Devoll, of Erdington, near Birmingham, for an improved syphon apparatus for flushing closets and preventing waste of water. Dated January 17, 1884.
- „ 1609. T. Mc Grah, of Sheffield, for improvements in perambulators. Dated January 17, 1884.
- „ 1610. G. W. Willford and V. J. O'Donnell, both of Sheffield, for apparatus or appliances for and in connection with the manufacture of shovels and other similar articles. Dated January 17, 1884.
- „ 1627. W. J. Righton, of Euston Road, London, for an apparatus for instantaneously heating water. Dated January 17, 1884.
- „ 1630. T. Sanders, of Birmingham, and T. Stubbs, of Stockwell, Surrey, for improvements in window fasteners. Dated January 17, 1884.
- „ 1637. J. J. Offord, and J. Madal, both of Southampton Row, London, for an improved fastening pin. Dated January 17, 1884.
- „ 1641. W. R. Lake—a communication from L. Bannister, of Philadelphia, United States, for improvements in grates and grate bars. Dated January 17, 1884.
- „ 1664. G. Edwards, of Dunkenfield, Cheshire, for an improved gas burner and top combined. Dated January 18, 1884.
- „ 1704. M. H. Pearson, of Leeds, for improvements in washing machines. Dated January 18, 1884.
- „ 1706. M. H. Pearson, of Leeds, for improvements in washing machines. Dated January 18, 1884.
- „ 1745. C. Chippis, of Southsea, Hants, for an improved perambulator. Dated January 19, 1884.
- „ 1748. T. H. B. Hitching, of Ludgate Hill, London, for improvements in break apparatus for perambulators and invalid carriages. Dated January 19, 1884.
- „ 1764. J. Jones, of New Cross, and W. Whielder, of Devonshire Chambers, Bishopsgate Street, London, for an improved washing and cleansing machine, for plates, dishes and similar articles. Dated Jan. 19, 1884.
- „ 1769. C. Phillips, of Aston, near Birmingham, for improvements in oil lamps. Dated January 19, 1884.
- „ 1788. J. H. Cooper, of Ervington, and W. J. Ford, of Humberstone, both of Leicestershire, for improvements in knitting machines. Dated January 19, 1884.
- „ 1792. G. G. P. Brodie, of Birmingham, and J. D. Prior, of London, for improvements in fire grates. Dated January 21, 1884.
- „ 1793. W. Vaughan, of Small-heath, near Birmingham, for improvements in oil lamps. Dated January 21, 1884.
- „ 1802. J. Titley, of Wallsall, for improvements in duplex burners for lamps or lanterns. Dated January 21, 1884.
- „ 1810. C. J. Hart, of Pdgbaston, Birmingham, for an improved handle for tricycles and bicycles. Dated January 21, 1884.
- „ 1828. J. J. Nonnan, of Walbrook, London, for self-generating gas or vapour burners for heating purposes. Dated January 21, 1884.
- „ 1832. G. Moore, A. L. Stamps and B. E. Saunders, all of Aston, near Birmingham, for a new and improved joint for perambulators and other carriages. Dated January 21, 1884.

- No. 1836. J. W. Watts, of Countesthorpe, Leicester, for improvements in latch-needle knitting machines. Dated January 21, 1884.
- „ 1844. T. Birks, of Nottingham, for improvements in perambulators or vehicles for children. Dated January 21, 1884.
- „ 1859. T. Trotman and J. Carter, both of Stroud, Gloucestershire, for improvements in raising or lowering window blinds. Dated January 22, 1884.
- „ 1862. E. W. Whitehall, of Nottingham, for an improved attachment to loop-stitch sewing machines for the trimming and wetting of looping fabrics. Dated January 22, 1884.
- „ 1876. J. R. Taylor, of Moss Grove, Kingswinford, Staffordshire, for a new or improved washing machine. Dated January 22, 1884.
- „ 1892. H. Harris, of Mildmay-park, and T. Janeway, of Lambeth, London, for improvements in filters, whereby every household in town or country shall have a constant supply of pure filtered water. Dated January 22, 1884.
- „ 1893. R. Gordon, of Worthing, for improvements in the form and construction of lamps. Dated January 22, 1884.
- „ 1899. F. Axarn and G. Davies, of Chancery-lane, London, for improvements in washing machines. Dated January 22, 1884.
- „ 1910. J. Whiteley, of Leeds, for improvements in needles for sewing machines. Dated January 22, 1884.
- „ 1914. J. F. Wiles, of Old Charlton, Kent, for an improved knife cleaner. Dated January 22, 1884.
- „ 1950. J. Watson and G. Whalley, of Keighley, Yorkshire, for improvements in the construction of washing machines. Dated January 23, 1884.
- „ 1960. S. Welman, of Godalming, Surrey, for improvements in water-closet apparatus. Dated January 23, 1884.
- „ 1974. L. A. Groth—a communication from M. Schneider, of Doos, Germany, for improvements in jacketed heating stoves. Dated January 23, 1884.
- „ 1989. F. Stichbury, of Leyton, for improvements in box irons. Dated January 23, 1884.
- „ 2005. W. Scott, of Glasgow, for improvements in the construction of heating stoves. Dated January 24, 1884.
- „ 2009. T. Chadwick and T. Sugden, both of Oldham, Lancashire, for improvements in or applicable to sewing machines. Dated January 24, 1884.
- „ 2019. L. W. White, of Birmingham, for an improved skein holder. Dated January 24, 1884.
- „ 2035. J. Jones, of Highgate, London, for an improved method of constructing kettles, saucepans and other vessels. Dated January 24, 1884.
- „ 2045. J. Lowley and J. Harold, both of Battersea, London, for the ready and secure mode of fastening doors and opening same in case of sudden alarm by fire, or otherwise to be called the universal lever, latches and bolts. Dated January 24, 1884.
- „ 2048. E. A. Ripplingille, of Birmingham, for improvements in lamp burners for burning mineral oils. Dated January 24, 1884.
- „ 2063. A. M. Clark—a communication from W. Jensen, of Victoria, British Columbia, for improvements in domestic fire-escapes. Dated January 24, 1884.
- „ 2086. H. Parker, of Birmingham, for improvements in cruet stands, liquor frames, egg stands, and other frames of a similar kind. Dated January 25, 1884.
- „ 2104. T. H. Flamires, of Huddersfield, and W. H. Bailey, of Salford, for improvements in apparatus for cooking and other culinary operations. Dated January 25, 1884.
- No. 2108. W. Smith, of Eastbourne, for an improved benzoline lamp. Dated January 25, 1884.
- „ 2126. S. Thorpe, W. A. Chamberlain, all of Wigton, Magna, Leicestershire, for improvements in castors. Dated January 25, 1884.
- „ 2129. W. B. G. Bennett, of Cranleigh Portwood, of Southampton for an improved automatic flushing apparatus. Dated January 25, 1884.
- „ 2130. F. Plaister, of Oxford, for improvements in perambulators. Dated January 25, 1884.
- „ 2132. H. J. Davis, of 200, Camberwell-road, London, for improvements in gas heating stoves. Dated January 25, 1884.
- „ 2156. J. H. Johnson—a communication from A. Jacobs, of Brussels, for an improved apparatus or appliance for sewing machines, for colouring or dyeing, the material being sown thereby. Dated January 25, 1884.
- „ 2161. E. Jansen and A. Böntag, both of Soligen, Germany, for improvements in pocket knives. Dated January 25, 1884.
- „ 2181. T. H. Heard, of Sheffield, for improvements in the method of manufacture of table cutlery, edge tools, and other-similar articles. Dated January 26, 1884.
- „ 2182. W. St. John Joyce, of Dublin, for an improvement in fire grates. Dated January 26, 1884.
- „ 2221. A. J. Boulton, a communication from L. Henkle, of Rochester, New York, United States, for improvements in lamps. Dated January 26, 1884.
- „ 2224. A. Perkins, of Uxbridge Road, Shepherd's Bush, for an improved frying-pan. Dated January 26, 1884.
- „ 2248. M. J. Redgate, of Sheffield, for improvements in perambulators. Dated January 28, 1884.
- „ 2255. L. L. Hollier, of Birmingham, for improvements relating to perambulators, which may be applied to similar vehicles. Dated January 28, 1884.
- „ 2257. H. W. Triggs, of Bristol, for improvements in or applicable to perambulators. Dated January 28, 1884.
- „ 2270. A. Martin, of Birmingham, for improvements in lamps for burning mineral and other oils. Dated January 28, 1884.
- „ 2301. J. Conlong, of Blackburn, for improvements in water closets, and in valves for regulating the supply of water to same. Dated January 29, 1884.
- „ 2313. H. J. Allison, a communication from the Schott Button-Hole Attachment Company, of New York, United States, for an improved button-hole attachment for sewing machines. Dated January 29, 1884.
- „ 2375. H. Leeming, of Manchester, for improvements in or relating to knitting machines. Dated January 30, 1884.
- „ 2379. S. Willett, of Herne Hill, Surrey, for an improved window fastener. Dated January 30, 1884.
- „ 2385. C. Spong, of Brockley, Kent, for improvements in knife cleaning machines. Dated January 30, 1884.
- „ 2399. D. Lindo, of Finsbury, London, for an improved tea-pot. Dated January 30, 1884.
- „ 2403. W. Richards, of Birmingham, for improvements in the manufacture of stair-rod eyes. Dated January 30, 1884.
- „ 2414. A. Harmens, of Howard-street, Strand, London, for washing machines. Dated January 30, 1884.
- „ 2419. J. H. Ramsay, Bart., of Barnff, Perthshire, for an improvement in coal scuttles or fuel boxes. Dated January 30, 1884.



- No. 2432. F. H. White, of Liverpool, for the adaptation to all fire-grates, cooking ranges, stoves, &c., of a swivel rest or tea-crow by iron clip. Dated January 31, 1884.
- „ 2435. W. Macvitie, of Wyde Green, near Birmingham, for an improved sash and casement fastener. Dated January 31, 1884.
- „ 2452. B. R. Jackson, of Birmingham, for certain improvements in bells known as call or alarm bells. Dated January 31, 1884.
- „ 2490. J. W. Barsham—a communication from Messrs. Porter, Blanchard and Sons, of Concord, United States, for a new or improved butter worker. Dated January 31, 1884.
- „ 2496. R. Crosthwaite, of Upper Thames-street, London, for an improvement in and appertaining to fire grates or stoves. Dated January 31, 1884.
- „ 2519. A. Bradshaw, of Accrington, for improvements in oil cans. Dated February 1, 1884.
- „ 2529. W. Barsby, of King's Heath, Worcestershire, for improvements in lock-stitch sewing machines, more especially applicable to machines for sewing heavy material such as leather. Dated February 1, 1884.
- „ 2537. T. Wood, of Godstone, Surrey, for improvements in portable and fixed gas making lamps. Dated February 1, 1884.
- „ 2560. S. Coulson and W. H. Edwards, both of Birmingham, for improvements in apparatus for opening, closing and securing windows, casements, ventilators, doors, and all objects that swing on centres or hinges. Dated February 1, 1884.
- „ 2584. R. Wilson, of Brixton, London, for improvements in lenses for reflecting light. Dated February 2, 1884.
- „ 2595. J. Howarth, of Burnley, Lancashire, for improvements in the construction of washing machines. Dated February 2, 1884.
- „ 2602. J. Ayiward, of Coventry, Warwickshire, for improvements in perambulators, parts of such improvements being also applicable to the wheels of velocipedes and to the wheels of other vehicles. Dated February 2, 1884.
- „ 2605. E. S. B. Tombs, of Redcross-street, London, for improvements in sewing machinery. Dated February 2, 1884.
- „ 2609. H. A. H. Gill, of Hamburg, Germany, for improvements in type-writing machines. Dated February 2, 1884.
- „ 2611. C. Hunt, of Birmingham, for improvements in sun burners. Dated February 2, 1884.
- „ 2616. J. C. Mewburn—a communication from C. F. Norton and H. C. Mervin, both of Melbourne, for an improved hemming and felling contrivance for attachment to sewing machines. Dated February 2, 1884.
- „ 2625. L. L. Hollier, of Birmingham, for improvements in perambulators. Dated February 2, 1884.
- „ 2647. W. Foxcroft and J. J. Perry, both of Birmingham, for improvements in lamp or lantern burners for burning colza, petroleum, or other volatile oils. Dated February 4, 1884.
- „ 2686. A. B. Johnson, of West Hampstead, London, for improvements in window sash fastenings. Dated February 4, 1884.
- „ 2711. I. Hopperton, of Malton, Yorkshire, for a washing machine. Dated February 5, 1884.
- „ 2712. B. Boothroyd—a communication from W. F. Main, of Chicago, United States, for improvements in furniture casters. Dated February 5, 1884.
- „ 2761. D. H. Brandon—a communication from J. A. Fresco, of Paris, for improvements in sewing needles and in the modes of manufacturing the same. Dated February 5, 1884.
- No. 2774. T. H. Williams, of Soho, London, for spring hooks for window-blind cords. Dated February 5, 1884.
- „ 2811. J. E. Spratt, of Brook-street, Grosvenor-square, London, for an improved self-feeding atmospheric stove for heating baths, washing-tubs, or other vessels containing water by means of an apparatus or stove with the fire being immersed in the water, the invention being that of feeding the fire or flame with air. Dated February 6, 1884.
- „ 2824. J. Hunt, of Bolton, for improvements in washing machines. Dated February 6, 1884.
- „ 2865. T. Whitehead, of Aston, near Birmingham, for improvements in couplings and joints in lamps and chandeliers. Dated February 7, 1884.
- „ 2914. J. S. Millway, of Bristol, for an improved construction or arrangement of iron scraper door mat. Dated February 7, 1884.
- „ 2942. D. G. Stansbie and J. Parton, both of Birmingham, for dividing, and thereby increasing in volume and illuminating power, the ordinary gas. Dated February 8, 1884.
- „ 2958. H. Thomas, of Redditch, Worcestershire, for a method of papering or making up for sale needles threaded with cotton, silk, or other sewing material. Dated February 8, 1884.
- „ 2967. F. Wirth—a communication from R. Gruis, of Heilbronn, Germany, for improvements in gas lamps. Dated February 8, 1884.
- „ 2984. F. George, of Northumberland-street, Regent's-park, London, for improvements in gas connections. Dated February 8, 1884.
- „ 3033. C. Portway, of Halstead, Essex, for improvements in apparatus for use for cooking or other purposes. Dated February 9, 1884.
- „ 3044. T. Fletcher, of Warrington, Lancashire, for improvements in washing machines. Dated February 9, 1884.
- „ 3045. T. Fletcher, of Warrington, Lancashire, for improvements in gas stove and gas fires. Dated February 9, 1884.
- „ 3046. T. Fletcher, of Warrington, Lancashire, for improvements in gas-heated ovens. Dated February 9, 1884.
- „ 3061. R. C. Christian, of Dublin, for an improved method of securing stair rods. Dated February 11, 1884.
- „ 3108. J. A. and J. Hopkinson, of Huddersfield, for improvements in hot-water apparatus for domestic and similar purposes. Dated February 11, 1884.
- „ 3138. T. H. Landon, of Queen Victoria-street, London, for improvements in filters. Dated February 12, 1884.
- „ 3181. F. A. Hall, of Birmingham, for an improved gas-stove burner. Dated February 13, 1884.
- „ 3183. J. Morris, of River's-hill, Ashton-upon-Mersey, Cheshire, for a divisional coffee pot. Dated February 13, 1884.
- „ 3198. J. Morgan, of Bristol, for an improved ribbed knife board. Dated February 13, 1884.
- „ 3200. J. Morgan, of Bristol, for an improved cleaning and finishing fork cleaner. Dated February 13, 1884.
- „ 3216. W. H. Percival, of Westbourne-villas, London, for an automatic governor for regulating the speed of motors of sewing machines and other machines. Dated February 13, 1884.
- „ 3237. W. Singer and F. H. Hinterleitner, both of Berlin, for improvements in folding carriages for children. Dated February 13, 1884.

- No. 3266. J. Watson and G. Whalley, both of Keighley, Yorkshire, for improvements in the method of preserving washing machine rollers. Dated February 14, 1884.
- „ 3281. T. Thorp, of Whitefield, Lancashire, for an improved governor for regulating the flow of gas to burners. Dated February 14, 1885.
- „ 3311. G. Rittinghaus—a communication from W. Henschen and Co., of Geislingen, Germany, for improvements in apparatus for preparing or making tea or tea infusions. Dated February 14, 1884.

#### Letters Patent have been issued for the following:—

- „ 3592. H. Marlow, of the firm of Marlow, Smith and Company, of 127, Regent-street, London, for an improved construction of gas distributor in plastic material for domestic and like stoves. Dated July 21, 1883.
- „ 3681. J. Nadal, of Southampton-row, London, for improvements in sliding chandeliers or gaseliers and pendant lamps, applicable also to other purposes. Dated July 27, 1883.
- „ 3742. A. S. Bower, of St. Neot's, Huntingdonshire, and T. Thorp, of Whitefield, Lancashire, for an improved regenerative gas lighting apparatus. Dated July 31, 1883.
- „ 3848. W. Clark—a communication from J. H. Burnam, of Fayetteville, United States, for improvements in fire-places and fire-backs. Dated August 7, 1882.
- „ 3918. J. H. Ross, of Dublin, for improvements in locks for securing travelling and otherbags, portmanteaus and the like. Dated August 13, 1883.
- „ 4218. S. Siddaway and A. W. Clayton, both of West Bromwich, Staffordshire, for improvements in sad irons, box irons, and other smoothing irons. Dated September 1, 1883.
- „ 4674. S. Leoni, of St. Paul's-street, Fackington-street, London, for improvements in gas cooking ovens. Dated October 2, 1883.
- „ 5310. G. F. Marshall, of Battersea, London, for improvements in filters. Dated November 9, 1883.
- „ 5327. E. Greenfield, of Bromley, Kent, for improvements in apparatus for cleaning knives and forks. Dated November 10, 1883.
- „ 5415. G. W. Carr—a communication from Carr and Hobson, Limited, of New York, United States, for improvements in lawn mowers. Dated November 16, 1883.

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„ 2962.	W. P. Thompson, manumotive velocipedes	.. ..	0	2
„ 2969.	R. McCombie and W. Seaman, water-closet basins	.. ..	0	6
„ 2971.	Sir J. N. Douglass, burners	.. ..	0	4
„ 3022.	J. O. Fry, soldering irons	.. ..	0	2
„ 3025.	E. Edwards, adjustable springs for locks, latches or bolts	.. ..	0	2
„ 3028.	A. G. Brookes, sewing machinery	.. ..	0	8
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„ 3059.	R. Mindt, ironing machine	.. ..	0	6
„ 3064.	J. D. Sprague, latches, bolts or fastenings for doors, windows, &c.	.. ..	0	6
„ 3106.	C. Thompson, perambulators	.. ..	0	4
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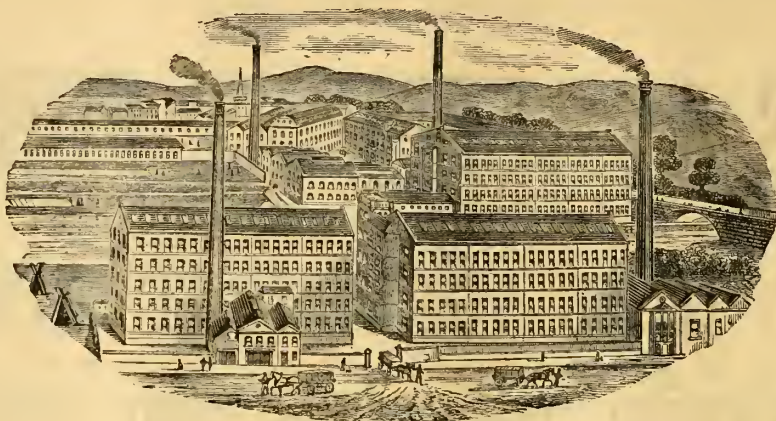
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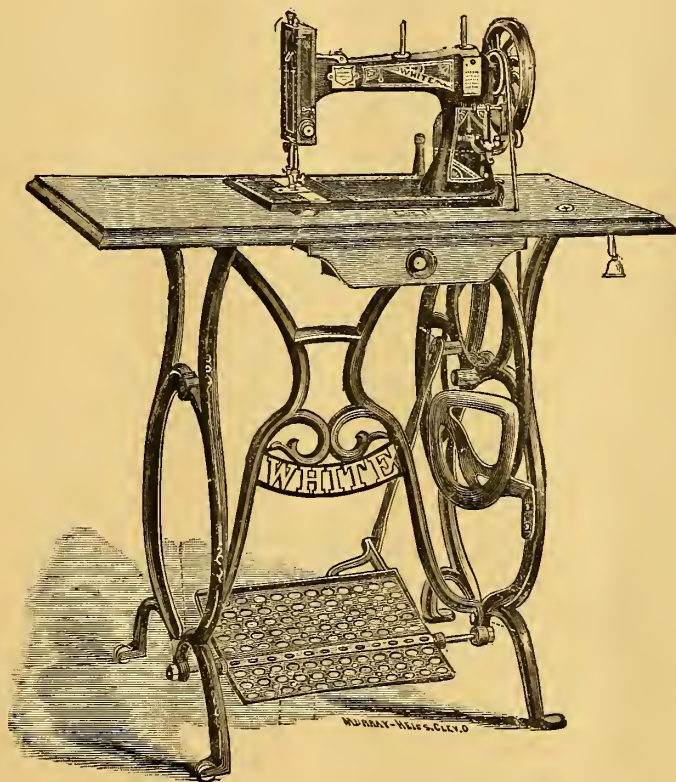
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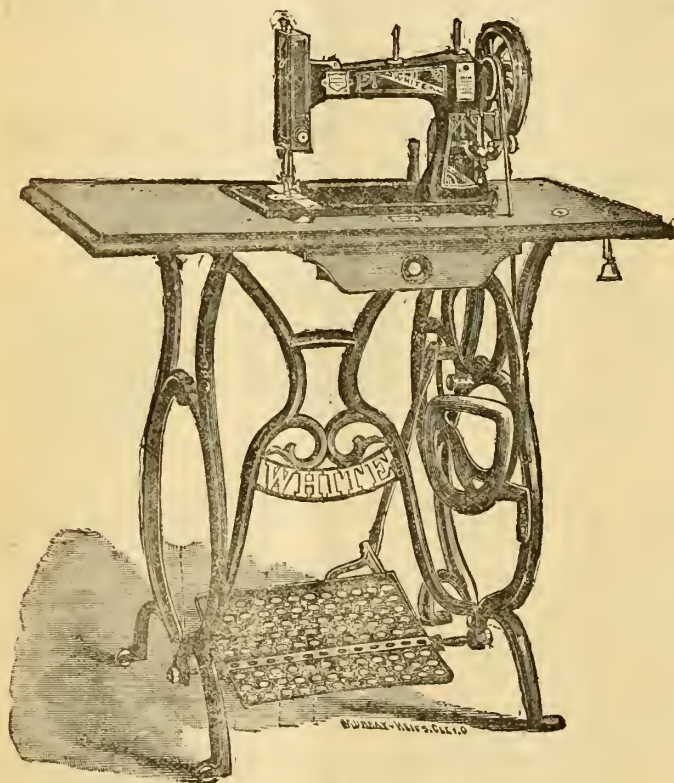
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THE IMPROVED WHITE MACHINE.

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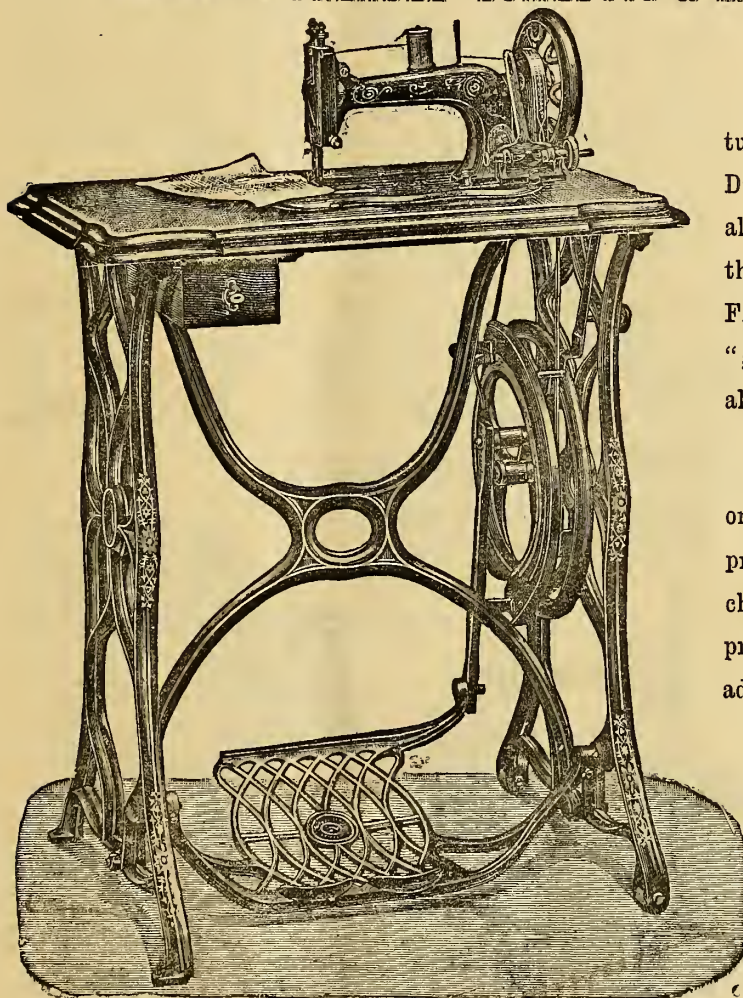
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All Sewing Machine Agents, Dealers, and Operators are invited to call and inspect this—the latest Improved and Best  
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(MANUFACTURERS' AGENTS),  
SOLE WHOLESALE AGENTS FOR THE  
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**SEWING MACHINES**  
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The Sewing Machines manufactured by Messrs. Gritzner & Co., of Durlach, have won Prize Medals at all the principal Exhibitions during the past 5 years; but what is of FAR MORE VALUE, they have won "golden opinions" from Agents in all parts of the World

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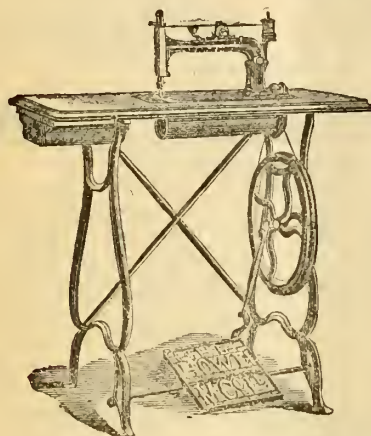
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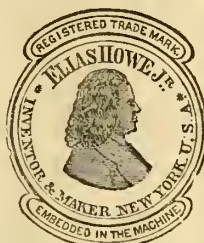
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**Manufacturers** of Boots and Clothing, who carry on a high-class trade **ONLY USE THE HOWE MACHINE.**

**A trial** is all that is necessary to convince those in want of a Sewing Machine that **THE HOWE** is entitled to pre-eminence over all others.

**Families** will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.

**Dressmakers** who once use **THE HOWE** give it the preference over all others for beauty and durability of Stitch.

The Howe Machine Co. are also Manufacturers of Bicycles and Tricycles.

**THE HOWE BICYCLE, PRICE FROM £15 15s.**

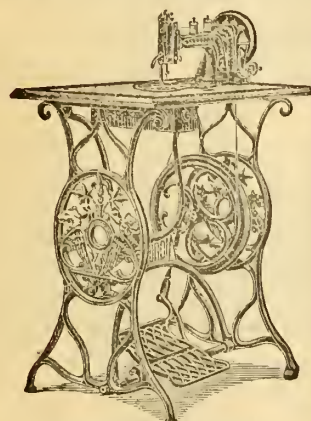
Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

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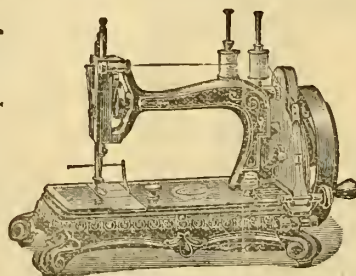
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**Sewing Machine Manufacturers.**

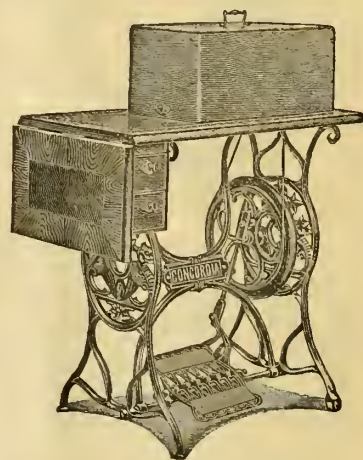


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Best Finish, Latest Improvements.

**"ORIGINAL PRINCESS,"** Hand Machine, Specially Recommended is exceedingly popular & very cheap



The **"CONCORDIA"**  
(Singer System),  
Hand or Treadle.

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The **"CONCORDIA,"**  
(Singer System)  
Hand or Treadle.

## THE SINGER MANUFACTURING COMPANY'S NEW FACTORY.

WE are informed by Mr. Whitie, the assistant manager of the Singer Manufacturing Company, London, that the new factory which was commenced in the spring of last year, at Kilbowie, near Glasgow, is fast progressing towards completion. The whole of the premises are on a very extensive scale, and are situated on forty-six acres of ground, contiguous to the Glasgow, Dumbarton, and Helensburgh Railway, having the Kilbowie Station at the north-western corner. The buildings are both elaborate and complete, and consist of a main block 800 feet long by 50 feet broad, three storeys high, with three connecting wings, each 75 feet in length by 50 feet in breadth. The floorage area of this block, forming the main buildings, is 273,750 square feet, and here the automatic tools and machinery are in course of erection for making the various parts of the different kinds of machines. In close proximity, there is the cabinet and box-making factories, consisting of two buildings, each 350 feet long and 50 feet broad; the two blocks of this department are connected at each end by two wings, 75 feet in length and 50 feet wide, all being three storeys high, and having a floorage of 127,500 feet. Then, on the opposite side of the main block is the foundry, 450 feet long by 360 feet broad, having a foundry store and annealing departments adjoining, 290 feet long and 110 feet broad, separating it from the part in which the making, jappanning, and ornamenting of machine stands will be carried on. On the north-east of the foundry is the forge, 300 feet long and 100 feet broad, whilst considerably to the north is the boiler shop of similar dimensions. The shipping and storing machines department is 370 feet long and 115 feet wide, having an area of 42,550 square feet. The packing shop is 150 feet long and 50 feet wide. The total floorage is 806,125 square feet, and the extent of ground occupied by the new buildings is 46 acres. In addition to the railway on the north side of the works, the grounds are bounded on the south by the Forth and Clyde Canal. The North British Railway Company have constructed a siding into the site of the works, a branch from which is continued all round and through the buildings. A shipping stage is also erected on the side of the canal. As may be expected, works of such an extensive character will find employment for a large number of persons, about 3,500, and it is expected that 8,000 sewing machines will be turned out per week.

To the foregoing description we may add, that whilst it is gratifying to record the development of the manufacturing business of one sewing machine company in this country, it is satisfactory also to know that other companies are still increasing. The fact is, every house almost in the United Kingdom has a sewing machine, for the same reason that every family possesses a clock. Both are indispensable. Indeed, some families have more than one machine, in addition to which, there are factories where from 50 to 300 or more machines are to be found. The demand is therefore great and must increase in proportion to the development of the wealth and industry of the civilized globe.

The new Oscillating Shuttle machine, made by the Singer Manufacturing Company, has had a large sale lately. It is much swifter than others made by this Company, and can make 2,000 stitches per minute. The mechanical construction—as explained to us since our last—is simple in the extreme, whilst it is very light in its running. We hear that one house has just ordered 200.

## THE VERTICAL FEED SEWING MACHINE.

WE have received samples of work made by the new Vertical Feed Sewing Machine, and have also availed ourselves of the opportunity of inspecting this machine and seeing it in operation. It is a lock-stitch, and has very few parts underneath, a principle which renders it light and easy in its running whilst it is comparatively noiseless. One of its great peculiarities is, the feed motion is not secured by teeth, and is carried forward above instead of under the work as in other machines. By these means tacking is obviated, fewer parts are required in the construction, whilst a greater variety of work can be effected. The samples of work we consider to be very good, and we noticed that three operations—gathering, stitching, and facing—can be done at one time. The most beautiful operation seemed to be that of pleated trimming, or small pointed kiting. We saw this made from straight material, the machine producing a fancy pink pleating as it worked or sewed. We consider this to be the crowning operation of the Vertical Machine, which must for this reason make it very acceptable to ladies who are fond of fancy work. The gauging we saw done is really excellent work, and we have never seen it surpassed. It will do felling, bias or straight, on any cotton or woollen goods; fell across seams; bind dress goods with the same or other material, either scallops, points, squares, or straights.

## A BICYCLE STAND AND HOME TRAINER. EXERCISE AT HOME.

THE necessity for the invention of some means by which riders can have good practice during bad weather, whilst the roads are unsuitable, and also for those who reside in large towns too far from a good bicycle track, has long been felt. It is, therefore, satisfactory to find that Walton and Vaughan's Patent Bicycle Stand, for home practice, has been invented to supply this want. It consists of a strong iron base, with cross arms of the general form of the letter T. In this base two rollers are mounted, whilst at the end of each of the cross arms a nearly upright rod is fixed, on the top of which is a forked cap for receiving and holding the head of the bicycle. In using the stand, the driving wheel of the bicycle is passed on to the rollers, the head of the bicycle fitting into the forked cap at the top of the upright rods. The machine is thus firmly fixed and supported in the stand, and the rider operates upon it in the usual way in a room connected with his own premises or in his garden. A powerful brake is connected with the stand, which can be used to represent ascending hills. There is also a new registering apparatus combined with the stand, which indicates the supposed distance travelled by the bicycle, and a bell is made to ring at the end of each indicated mile.

THE Wanzer Sewing Machine Company are bringing out a new machine which will be ready in June, if not before. A large number of the Wanzer machines have been exported to the South African colonies during the last ten years.

WE have been shown a light running machine manufactured by the Domestic Sewing Machine Company, New York, for whom Messrs. Gordon and Gotch are the London agents. The "Reliable" is a good hand-machine made by this Company.

THE Huddersfield Fine Art and Industrial Exhibition has forwarded a gold medal—the highest award—to the Singer Manufacturing Company.



## ON THE RELATION BETWEEN MASTERS AND MEN.

### JOHNSTONE—ODDFELLOWS' SOIRÉE.

**T**HE annual soirée in connection with the ninth anniversary of the Loyal Perseverance Lodge of Oddfellows, No. 6090 (Manchester Unity), was held, early in March, in the Public Hall. There was a large attendance. Mr. James Finlayson, jun., of Merchiston, presided; and considerable interest was imparted to the proceedings in consequence of Mr. Finlayson delivering his "maiden speech." The Chairman was accompanied to the platform by Rev. John Jeffray, Mr. Archibald W. Finlayson, Bailie Meiklejohn, ex-Bailie Hunter, Messrs. Alexander Wylie, James Barnett, John Carswell (Paisley), Andrew Kay, William Buick, Peter Hutchison, James Leckie, Alex. McKeeman, &c.

The Chairman, who, on rising to deliver his address, was received with loud applause, said—Having partaken of the very excellent supper provided by your committee, we now proceed with the programme, and, as a celebrated sportsman puts it, "we pass from the feast of reason to the flow of soul." Scarcely, however, are we ready to start than we are confronted with a formidable obstruction, which bars our further progress; but, with your kind forbearance, I shall do my best to negotiate the first fence, and, the "Chairman's address" once cleared, I don't see any other barrier in our course which is likely to cause further difficulty. (Applause). I shall commence by congratulating the members of this lodge on their balance-sheet for the last year; because, while on account of sickness they have been called upon to distribute a larger amount than for several years, their receipts have also increased, on account of increased membership. They have been able to augment their capital by £55, and it now amounts to the very respectable sum of £386, or £3 9s. per member; and during the last eight years a sum almost equally large has been paid out to sick members. (Applause). Now, this is a result for which we should be thankful, as it is not always the experience of friendly societies. (Applause). I noticed lately an article in a newspaper on a blue-book recently issued, which contained remarks on the valuations of friendly societies in Scotland for the period of five years—from 1876 to 1880—which showed that out of 247 valuations only 78, or about one-third, showed a surplus amounting to £84,000, and the remaining 169 showed a deficiency of £159,000. The satisfactory balance-sheet produced by this lodge is evidence of the careful management of your committee, and I am sure it is a matter of great satisfaction to them that they are able to present to you such a good account. Now, if there is one thing more necessary than another in connection with a society such as this (which is, in fact, a Mutual Assurance Company), it is confidence in the management; and I am quite sure, judging from this statement of your affairs, that you may go on your daily journey with the full assurance that a safe provision has been made against the trials and vicissitudes which may overtake any of us in our journey through life. I have only been able to glance over some of the books published by the Oddfellows' Society, but even a glance is sufficient to show that the magnificent success which it has accomplished is not due to mere chance, but to splendid administration, and even a casual observer cannot fail to be fully impressed with the wonderful detail of the system. What a gigantic system this is, with a membership of half-a-mil-

lion, and a capital amounting to the enormous sum of five and a half millions, and what an influence for good it can exert! (Applause.) The contemplation of such a magnificent institution naturally leads one to compare the present condition of our country with that which existed not so very long ago. We who enjoy so many advantages in these times become so accustomed to them that we cease to appreciate them as we ought; and while I believe that, as a nation, we are contented, still it is well to look back a little and see how the present condition of things was brought about, and to compare it with that which went before. It is well for us to study the history of our times. The object I have in view in making a short retrospect in illustration of the idea I have just thrown out, will be best attained if I refer to a few every day institutions which are familiar to all of us. (Applause) Take the penny post. We are so accustomed to send penny letters, that the idea that the charge was ever more than this probably never occurs to many, and some, no doubt, often think it too much; and yet when the idea of a penny rate of postage was first suggested in 1837 (forty-seven years ago) by Mr. Rowland Hill, it was regarded as a daring revolutionary scheme. It took two years of discussion to educate Parliament up to the mark, but the measure was finally accepted, and came into force on 10th January, 1840—just forty-four years ago. You may form some idea of the difficulties previously thrown in the way of the commercial development of the country when I mention that, forty-five years ago, it cost 8d. to post a letter from Brighton to London—fifty miles—and 1s. 4d. from Belfast or Aberdeen to London, and this for only half-a-sheet. In 1838, 76 million letters passed through the Post-office; last year (1883), the number was 1,281 million letters and 144 million post-cards; and, in addition to this, there were 32 million telegrams and 429 million newspapers. We all realise the advantage of a free, unfettered, and cheap Press. We feel how much the penny paper in the morning, and the halfpenny paper in the evening, contribute to our happiness and to our education in the events which are occurring all over the world. The newspaper almost forms part of our daily food, and to us in Johnstone the week would not be complete without the *Gleaner*. Less than fifty years ago, there was a tax of fourpence per copy on every newspaper. The paper itself was loaded with a tax which yielded a revenue three times as large as the wages of the workpeople employed making it. And so, from one cause or another, the price of a newspaper was so high that the employment of it was a rare luxury. The entire circulation of the country was only thirty-six million copies per annum, and the readers were said not to exceed 300,000. In 1836, a reformed Parliament reduced the tax to one penny per copy, which also covered postage, but it was not till 1855—less than thirty years ago—that this tax was abolished; and the repeal, six years later, of all duty on paper gave the final impetus to the Press, which has since gone on unimpeded in its glorious career. What the circulation now is, with the machines printing at the rate of 40,000 per hour, and what the number of readers now is, would, I think, be impossible calculations. The Post-office alone carried 429 million papers last year, and this must have been a mere drop in the bucket. (Applause.) The news given in the old times was of the most meagre description, and I believe there is more actual knowledge of the daily doings of the world conveyed in the bills which are put up at the news-agents' doors than in a newspaper in 1836, which cost perhaps 1s. or 1s. 6d., and on which a

tax of 4d. had been paid. I know that very often, when walking down to business in the morning, I get news of startling events from an old friend I meet; but when he has said enough to excite my desire for details, I find he fails then, as he has not had time by that hour to master details, and has gleaned his information from the bills. Now, the references to the Post-office and the Press naturally lead to the great question of education. Every one in the community is interested in this great subject, and those who are not enough interested are generally reminded of their shortcomings by our worthy compulsory officer, Mr. Budge. (Applause.) The events connected with the introduction of the present system of education are too recent to require to be dwelt upon now, but I may say that no legislation of our generation will produce more magnificent results, or conduce more to the prosperity of the entire nation. I have heard men say that education was not desirable, because if every one be educated, there will not be any working men left. Possibly a good deal of such talk was meant by way of joke, but, curiously enough, what is now stated in this half jocular way was stated in all earnestness in Parliament fifty years ago. (Laughter and applause.) It was then believed that the education of the masses was a source of danger, and a learned judge, Lord Cockburn, stated "the principle was revered as indisputable that the ignorance of the people was necessary to their obedience of the law." And it was on this principle also that the heavy taxation was put on the Press to prevent the extension of enlightened ideas. Such outrageous and illogical views were bound to be upset, and I think you will agree with me that our legislators were themselves sadly in want of education. Now, the universal cry is for education. Instead of expecting people who are ignorant to fulfil the law, the feeling which has prevailed of recent years is that ignorance is the real danger to the State, and that the men who, as enfranchised citizens of this great country, have her destinies more and more intrusted to their keeping, must be carefully educated, in order to be able to take an intelligent interest in her affairs, and by more intelligent labour also, to maintain her in her high place among the nations of the world. In America, I have seen the very perceptible effects of the excellent education which is one of the glories of that great people; and I firmly believe that the main thing which has made that nation what she is, which has tided the Republic through many a storm and severe trial, and preserved her "united, one and for ever" the wonder of the civilised world, is—education. From the very first settlement of the Colony, the system of free education was established, and now the annual sum expended on this branch is about twenty millions (sterling) per annum. In this country, we have made splendid progress, and no one coming in contact with young people can fail to notice the marked improvement which is being steadily produced. After the Reform Bill of '32 was passed, the demand was made for an education grant, and £20,000 per annum was obtained. A motion made in 1839 to increase this to £30,000 met with great opposition, and was only carried by a majority of two, the vote being 275 to 273. The grant was increased from time to time until in 1850 it amounted to £180,000, in 1860 to three-quarters of a million, in 1870 to not far from a million, and from that time, when the new Acts began their operation, the grant has rapidly increased, until now it amounts to some four millions. Probably no measure of recent times can be named of equal importance with the abolition of the Corn

Laws, as affecting the material welfare of the masses of this country. Lately we have had a cry raised to re-impose the Corn Laws in a modified form, by a tax of 5s. per quarter. It is stated that this would hurt no one, and would never be known, but we shall never agree to lose the results of the great struggle which Cobden and Bright won for us forty years ago. What were the Corn Laws? During the wars with Napoleon, no foreign grain reached our shores, and the country was often nearly reduced to starvation. Prices of grain were high—wheat averaging 84s.—and farmers and landed proprietors made splendid profits. In 1801, wheat for a short time was 180s., and the quartern loaf 1s. 10d. After the war was over, there was a danger of foreign grain reaching this country and reducing the prices; and therefore, in 1815, the famous Corn Law was passed, which prohibited the importation of wheat until the price in the home market had for six months been maintained at or over 80s. per quarter. When I tell you that last year the price averaged about 40s., and at present is about 36s., and that we import annually fully sixty millions' sterling of bread stuffs, you will be able to form an idea of the curse which this law imposed on the country. But while the import of wheat was permitted on certain conditions, cattle, dead or alive (of which we imported twenty-two millions in 1881), were not admitted on any terms whatever, and so the working-classes rarely indulged in butcher meat. Famines were of frequent occurrence, and it is reported that in Edinburgh one in eight of the population were dependent on charity, and that Paisley was sometimes entirely without grain or meal. At the same time, while wages, which had been good during the war, now declined, taxation increased to an enormous extent, and in some instances the working man had to pay half his total wages in direct and indirect taxation. Sydney Smith did not caricature when he wrote—"The schoolboy whips his taxed top; the beardless youth manages his taxed horse with a taxed bridle on a taxed road; and the dying Englishman, pouring his medicine which has paid 7 per cent. into a spoon which has paid 15 per cent., flings himself back upon his chintz bed which has paid 22 per cent., and expires in the arms of an apothecary who has paid a license of £100 for the privilege of putting him to death. His whole property is then immediately taxed from 2 to 10 per cent. Large fees are demanded for burying him in the chancel; his virtues are handed down to posterity on taxed marble; and he is then gathered to his fathers—to be taxed no more!" Everything was taxed. The debt had been raised to 840 millions, and the annual interest to thirty-two millions, and the money had to be raised somehow. Salt was taxed to forty times its value, so that people on the coast used the sea water (which was about the only thing not taxed) for cooking their food; and even the light of Heaven and the heat of the sun, both of which are absolutely necessary for our preservation in health and happiness, were practically taxed and shut out from our dwellings by an iniquitous tax on windows, which actually continued till 1851. The natural result of this state of affairs became apparent in a frightful increase of pauperism. Whole parishes were reduced to this state, and the amount spent about 1835 rose to eight millions, as much as now with a population nearly doubled. This was largely caused by mal-administration of the Poor Laws, but the enormous taxation and the Corn Laws were at the root of the evil. (Applause.) In 1838 was formed that mighty Corn Law League, which, under



the skilful guidance of its leaders, Cobden and Bright, went forward with irresistible force until the object for which they fought was achieved. A succession of bad harvests reduced the food supplies of the country, and at last, in 1845, came the worst year of all. The entire potato crop of Ireland was destroyed, and the grain crop elsewhere seriously injured. The people cried aloud for food. A famine was coming on. Supplies were available from all parts of the world, but the pernicious Corn Laws shut them out. But a deliverer was at hand. Converted by the teaching of the great apostles of Free Trade, and by the dreadful circumstances of the time, Sir Robert Peel at last took up the cause, and carried the repeal in 1846; and thus, after an existence of thirty years, those laws which blighted and drained the life of the nation were finally, after a gigantic struggle, swept away, never to be enforced again. Sir Robert Peel's words on being driven from office shortly afterwards, and for the last time, are beautiful and pathetic. He said—"It may be that I shall be sometimes remembered with expressions of good-will in the abodes of those whose lot it is to labour and earn their daily bread by the sweat of their brow. I trust my name will be remembered by those men with expressions of good-will, when they shall recruit their exhausted strength with abundant and untaxed food, the sweeter because no longer leavened with a sense of injustice." (Applause.) The keystone of the protective system was now broken, and the whole fabric rapidly fell. Tax after tax was removed, until now nothing remains about which reasonable complaint can be made. The only imperial taxes which a working man pays are those on intoxicating liquors, tobacco, tea, or coffee. The two former he need not pay unless he likes, and the tax on tea amounts to only 3s. per head of the population, or less than 1d. per week, and this is all that a working man contributes to the imperial exchequer for the glorious privilege of being a citizen of this great and free country. (Applause.) That the working classes are better off now than they were forty or fifty years ago few will be inclined to dispute. It is proved by the accumulation of wealth in the Savings' Banks, which have increased in about forty years from twenty-four to eighty-four millions; it is proved by the sums invested in Co-Operative Societies; and not less in the magnificent record of the Friendly Societies, which have a fund of over thirteen millions sterling. It is proved by the statistics of the Railway Companies. Thirty years ago, the total number of passengers carried was 103 millions. Curiously enough this is the exact number carried in the first and second classes alone in 1882, but in addition to this there were 552 millions carried in the third-class; and now the receipts from the third-class passenger traffic alone, amounting to about eighteen millions sterling, come to as much as the total receipts from all sources thirty years ago. A sovereign will purchase as much now as it did fifty years ago. Since that time wages have increased 50 to 100 per cent., the necessities of life are cheaper, the working-classes live in better houses, and partake of better food. Hours of labour are shorter, the means of education are increased. Schools and education are provided for every child in the country, and free libraries and working men's clubs afford the means of improvement and recreation to those of maturer years. (Applause.) It can be truly said that these times in which we live do not suffer by comparison with the former times in which our forefathers lived. But let us not forget the struggles they maintained and the privations they endured, in order that we might secure the

benefits we now enjoy; and may the contemplation of these things produce a spirit of contentment in the present age, and also rouse the spirit of manhood within us, to do our part in maintaining our grand old country in the proud position she holds among the nations of the earth. (Loud applause.)

Rev. Mr. Jeffray and others delivered addresses. Towards the close, ex-Bailie Hunter, in lieu of a speech, gave an interesting reading, which was highly appreciated.

The musical part of the programme was sustained by Miss Miller, and Messrs. Ripon and Gow.—An assembly followed.

## MEDALS AWARDED AT THE CALCUTTA EXHIBITION.

WE were hoping in our present issue to have given a complete account of the medals awarded at the Calcutta Exhibition to the manufacturers of sewing machines and their necessities; but it appears that some protests have been lodged against certain awards which will, it is expected, result in important corrections. One house in London was advised that three medals were awarded for its machines; but from subsequent information received, it appears that further communications must be received respecting the final determination of the Commissioners.

## A HILL-CLIMBING TRICYCLE.

THE Elias Howe Sewing Machine Company are exhibiting in their window in London, an improved tricycle which is a great novelty, and is attracting considerable attention. It is called the "New Howe Double Driver," and is driven on both sides by Edge's new patent grip gear, which is said to be the most sensitive and reliable gear ever invented; allows the machine to be turned in a very short space. As seen by us, we found it to be a very powerful "hill climber." Mr. Edge rode one up an incline having an ascension of one yard in five, which is a gradient more than sufficient for giving a good test of the climbing properties of this machine, more particularly so as the incline was wooden planking. It seemed that the direct action on both sides—by which the machine is driven—gives the power for climbing, whilst the new brake, which acts on the crank, forms one perfect brake. These are points in the construction of the machine which manifest mechanical conception of the highest utility. In going up a hill, if the rider slips a treadle or takes his feet off the crank, the machine will not run back but remain stationary. In descending hills also the pedals remain in one position, and can be used as footrests, or by backward pressure of the pedals, as in "back pedaling" the rider can use the brake to any required extent. By raising a small lever he can also back the pedal. We were told that the machine would pass safely over an 18-inch deal or plank, but this experiment was not tried in our presence.

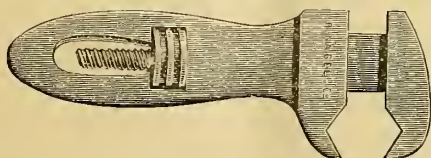
A new building has been added to the Howe Bicycle Factory, near Glasgow, in which ovens and all the apparatus necessary for the proper carrying out of the enamelling and painting processes have been fitted up.

Messrs. Grimwade and Co., of Glasgow, are about to introduce a new type-writer, or writing machine, which will be much cheaper in price.

## THE NEW PROCESSES FOR MAKING ARTIFICIAL IVORY.

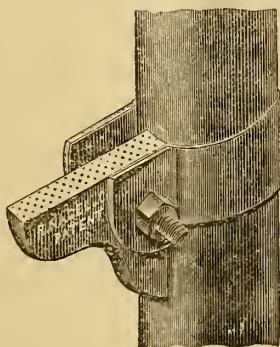
**T**HE *Chronique Industrielle* gives the following description of a new process for making artificial ivory from the bones of sheep and goats, and the waste of white skins, such as kid, deer, &c. The bones are macerated for ten or fifteen hours in a solution of chloride of lime, and afterwards washed in clean water and allowed to dry. Then they are put with all the scraps of hide, &c., into a specially constructed boiler, and dissolved by steam so as to form a fluid mass, to which is added  $2\frac{1}{2}$  per cent. of alum. The foam is skimmed off as it rises, until the mass is clear and transparent. Any convenient colouring material is then added, and, while the mass is still warm, it is strained through cloth of appropriate coarseness, and received in a cooler, and allowed to cool until it has acquired a certain consistence so that it can be spread out on the canvas without passing through it. It is dried on frames in the air, and forms sheets of convenient thickness. It is then necessary to harden it, which is accomplished by keeping it for eight or ten hours in an alum bath that has not been used before. The quantity of alum necessary for this operation amounts to 50 per cent. by weight of the gelatine sheets. When they have acquired sufficient hardness, they are washed in cold water, and let dry on frames as at first. This material works more easily, and takes as fine a polish as real ivory.

**M**ESSRS. R. NAGEL & CO. in Bielefeld, Germany, have patented a little instrument called the Lion-mouth, for the use of cyclists, of which we give an illustration. This wrench is the only adjustable one which



does not slip, as the nut is held at two corners and four sides. It therefore unscrews the strongest nuts of bicycles, tricycles, and other machines.

The same firm has patented another useful appliance for bicycles. It is an adjustable step, and we give also an illustration thereof. We are informed that the price is



very moderate. The agent for the United Kingdom is Mr. C. Lohmann, 43, London-wall, E.C.

## GENERAL NOTES.

**M**ESSRS. HORNE & CRAMPTON received, ex. ss. *Boston-City*, arrived March 24th, 2,231 cases of sewing machines for the White Sewing Machine Company, shipped direct from their factory at Cleveland, Ohio, U. S. America, via Boston. This we believe to be the largest shipment on any one vessel since the introduction of American sewing machines in the English market. The same firm hold bills of lading for 1,173 cases for this company, following by next steamer, *Newcastle*. These were shut out from the Boston for want of space, otherwise the shipment would have been 3,407 cases. This large shipment, we are informed, will enable them to meet their rapidly increasing business.

**ENGLISH TRADE MARKS AND PATENTS.**—Mr. Paul Pfeleiderer, Upper Ground Street, London, calls our attention to what appears to him, as it must to many others, a hardship under the patent laws. As an English patentee Mr. Pfeleiderer is allowed to cast his name and the words "Patent, London," on machinery invented by him. When, however, these words appear on castings produced in Germany, the cases are stopped by the English Custom-house. The English patent laws tend in this way to aid manufacturers in England. It should also be pointed out that the words on the castings become virtually a trade-mark from which it may be inferred that the goods have been produced in London, which really they have not, and thus one object of the Trade-marks' Act would be defeated. This grievance, however, is an old one, and if other patentees will tell Mr. Pfeleiderer how to overcome this difficulty, we shall be glad to publish their advice.

**INDIARUBBER TIRES.**—Mr. W. H. Carmont, of Manchester, has invented a new system of fitting rims of indiarubber into metal grooves forming wheel-tires, the rubber being firmly held in place by expansion and atmospheric pressure. The advantages claimed for the invention, which is being widely adopted, are that the tire is as durable as an iron tire, that it can be readily renewed, either wholly or partially, at a small cost, that the wear and tear of the vehicle are diminished, and that the quietness and absence of vibration add greatly to the comfort of the occupants of carriages with wheels thus fitted.

**A REMARKABLE THYRONE** in cut glass has been made by Messrs. Osler and Co., of Birmingham, to the order of an Indian prince. From the back and arms of the throne there spring pillars, supporting a dome-shaped canopy, above which appears a large star. Every portion of the surface has been cut, the pine-shaped finials which surmount the arms having no fewer than 324 facets. The ornamentation of the dome is especially elaborate, and as it is at present illuminated by two incandescent electric lamps, which are fixed beneath it, it sparkles like a gigantic diamond. The work is believed to be the most important example of cut glass that has ever been made, and the effect is singularly brilliant.

**THE Vertical Feed Sewing Machine Company**, of Watertown, U.S.A., and London, have introduced a new sewing machine lamp. It throws a beautiful light on the work and protects the eyes.

**A CONTEMPORARY** comments on the productiveness of the Income Tax, which was £10,718,000 from 1st April, 1883, to end of March, 1884, against £11,900,000 from 1st April, 1882, to end of March, 1883, when the income tax was 1½d. per £ more, and draws therefrom the conclusion that the wholesale trades cannot have been so unprofitable as is generally believed. We believe that the greater productiveness is really caused by the inquisitiveness of the tax collectors, and the rigour with which merchants and traders are persecuted for increased returns. Many are arbitrarily assessed, and pay rather than appear before the Commissioners to appeal against the assessment. Others have to show their books and to account for every penny they have made. Formerly no such severity was shown, hence the occasional receipts of conscience-money by the Chancellor of the Exchequer for unpaid income tax. They have become very rare of late, these acknowledgments of bank notes, and they will disappear altogether soon. Perhaps the Chancellor of the Exchequer is not sorry to miss them.



# THE VERTICAL FEED SEWING MACHINE.

Beyond dispute the only really Perfect Machine yet produced.

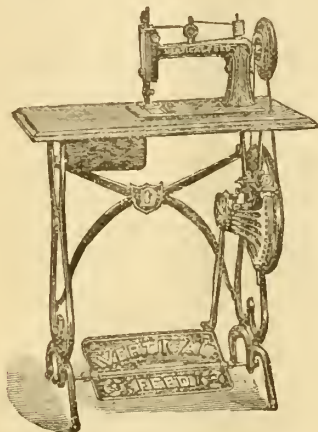
AWARDED THE  
ONLY GOLD MEDAL

AT THE

SYDNEY & MELBOURNE

EXHIBITIONS,

In Competition with all the leading Machines.



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its Feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking, and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity, and in the greatest perfection of style. The Shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

*Prospectuses, together with Samples of the Work and every information, may be obtained at the Offices of the Company,*

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## SEWING MACHINES—IMPORT AND EXPORT.

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JOURNAL OF DOMESTIC APPLIANCES  
AND  
*Sewing Machine Gazette.*  
WITH WHICH IS INCORPORATED  
THE HARDWARE TRADES' REVIEW.

THE present number commences a new series of this Old Established Trade Journal, the same having passed into other hands, and the present proprietors wish to state that it is their intention not only to make the "Journal of Domestic Appliances and Sewing Machine Gazette" the recognised organ of the Trade, but also the best and cheapest means of communication between the manufacturers of Sewing Machines and machines for general utility and household purposes on the one hand, and Merchants, Shippers, and Householders on the other.

This country being open to the goods of every nation, English manufacturers and makers have not only to face the competition of those foreign Producers who wish to dispose of their surplus production regardless of cost—their own home market being secure to them—but also of such Continental manufacturers, who, having the advantage of cheaper labour, can make the finished article at a lower cost than the British manufacturer. Under these circumstances it will be the task and duty of this journal to put before its readers descriptions of all new inventions in sewing machines and other machines of domestic utility. It is only by paying the closest attention to the details of production that the British manufacturer can hope to

equalise in his favour the great natural advantages which the foreign producers enjoy by means of cheap labour.

The tendency of the age is more and more in favour of large manufacturing establishments, where the utmost attention is paid to every detail of the manufacture, and where most of the work is done by machinery. This is always the case in countries where wages are high. America, of course, has set the example therein, and nowhere are these axioms more understood than in the United States. They were the first to supersede the small workshops by the large manufacturing establishments now so common all over that country.

We shall also publish the specifications of such recent patents as appear to us most worthy of the attention of the trade, and we invite inventors to send us the particulars of their specifications with drawings.

We shall also describe the leading Works abroad, as well as those at home.

Law reports connected with the trade will be admitted *in extenso*.

We invite correspondents to avail themselves of our columns for the ventilation of questions connected with the trade, and the greatest pains will be taken to furnish information asked for by our readers.

In the interest of our advertisers we shall circulate monthly 2,000 copies of our paper, in addition to our regular issue, among merchants and traders, both at home and in the Australian Colonies, the Cape, India and China, the River Plate, the Brazils, &c.

## THE SEWING MACHINE.

THE sewing machine has barely been invented thirty years, but it has already made itself a most formidable industry, in which a capital of ten millions sterling is employed, giving occupation to several hundred thousand workmen. The United States stand at the head of this industry. They employ more men, they have a larger capital, and turn out more machines than any other country in the world, and we may also say that their machines are generally better made and better finished than those made elsewhere. Consequently the majority of sewing machines to be found in this country are imported principally from the United States. Being an American invention, the Americans have made it a speciality of their own, and have also made it an industry of enormous importance. In this country the manufacture of sewing machines has never taken deep root. It has been, and is to the present day an industry of very secondary importance, and probably not half of the machines sold in Great Britain are of British manufacture. There are about ten makers of sewing machines in the United Kingdom, who turn out about 2,000 machines a week. In the United States there are forty factories of sewing machines, mostly of gigantic proportions, which turn out about 15,000 machines per week.

This is not as it should be. Surely British manufacturers

are not so flourishing that an important branch of industry should be left to such an extent in the hands of foreigners. Everywhere we find the doors of foreign countries closed against our goods. Every day foreigners learn more and more to do without us, and to supply themselves with goods with which we have hitherto supplied them. It appears to us, therefore, monstrous that we allow the sewing machine trade to be monopolised, even as far as the supply to our own people is concerned, by Americans and Germans. For the latter are also making great strides with the manufacture of their sewing machines. Their machines are cheaper than those of the Americans, though not so well finished. But for the purposes of the clothiers and other manufacturers they do quite well, and whilst the family machine will be generally one of American manufacture, those to be found in workshops will generally be British and German.

It must be admitted that the position of the British manufacturer is a difficult and a disheartening one. Whilst the wages exacted by the workman are very much higher than those in any other country, Great Britain is the receiving shop of every nation's surplus productions, and whilst every country in Europe and America barricades its gates with enormous duties against British goods, Great Britain receives placidly all what other nations choose to send here.

Our ruling classes allege in extenuation of this monstrous policy, that the British workman is so highly paid because he can do more and better work than foreign workmen, an assertion which may have been true at one time, but is most assuredly not true any longer. We hear also from our so-called statesman, that the national interests demand that the consumer or buyer should have the best goods at the lowest price, no matter where produced. Lastly, a new maxim, "the survival of the fittest" has been started, which means that the producer is to give way to the consumer, and that if, in spite of all obstacles which a conglomeration of circumstances has put in the way of the British manufacturer, he can no longer compete with the foreigner, well, he must go to the wall, a heresy which would have shocked our statesmen one hundred years ago. Evidently enlightenment does not come with age.

However, it is not our purpose to run our heads against a stone wall. It is of no use writing and speaking against one-sided free trade, for public opinion is still against us. But we put forward these sentiments as strong reasons for all Manufacturers to pay attention to the details of their business, and to fashion their goods according to modern requirements, and look out for every improvement. It will be our business to record everything which can be of use to the manufacturers, to note all improvements made in sewing machines and other domestic machines, and to report the state of trade abroad.

The sewing machine is no longer what it was when first introduced. Instead of a rattling, noisy machine, only fit for hemming and sewing, we have now a machine of elegant design and useful for a multitude of purposes, and as the same will be further improved and its purpose still more extended, there will be many more machines bought. We trust our manufacturers will be fully alive to this, and try not to be beaten by America as to design and finish, nor by Germany as to price. We hope we shall be able to do some good to British manufacturers and to the public generally.



## THE BEARD OF ABRAHAM WEINKAEFER.

A SKETCH FROM RUSSIA.

(FROM THE GERMAN OF KARL EMIL FRANZOS.)

ON the day on which I wrote these lines, I read in the telegraphic reports the laconic intelligence that in the south Russian town, and seat of the Government of the district, Jekaterinoslaw, a persecution of Jews had taken place for the fourth time in three years. But *only* thirteen persons had been killed; order had been re-established, and even a commission to try the guilty had already been appointed.

*Only* thirteen persons! . . . . .

But the intelligent and most industrious of all recorders of news in this century, the telegraph clerk, appears to be right. Thirteen people are really not much, especially when we consider with what numbers of dead and slain we have to deal now a-days. Last year the pestilence in Egypt struck down thousands. In Ischia five thousand were killed in a second on a fine summer evening; and in the Soudan—well, we need not enter now into these familiar tales. And they were also human beings who liked sunshine and loved life, and for whom now wife and children lament—just such human beings like those thirteen.

That is quite true no doubt, but nevertheless this "*only*" has touched all the chords of my heart to the uttermost. Was it because I feel that these thirteen persons from Jekaterinoslaw are nearer to me through the bonds of faith? Were it so, I should not deserve to be called a human being, but I know myself free from such a narrow-minded egotism. Neither is it because I witnessed last year some of such horrors which took place in the same country for the same reasons, and know quite well what such an insignificant Jews' hunt looks like in Russia. No, it was a different sentiment which disturbed my peace with painful thoughts, and I am sure it is shared by the many who will read these pages, no matter of what faith they are.

No one is guilty of the death of these 5,000 in Ischia. Whatever we may feel in the face of this blow which came suddenly out of the depth and struck down these flourishing lives with crushing speed, whether we may be seized with respect or rage, the sole consolation we have is, that the fearful question is not asked, which accompanies humanity on its mournful passage from cradle to eternity: "Cain, where is thy brother Abel?" But at the grave of these thirteen persons this consolation is wanting, and the old question is heard with shrieks and lamentations. These men have been murdered, not because they deserved it, but because they wore different clothes, because their faces were of a different cut, and because they, as the murderers, and they themselves believed, prayed to a different God.

That to this day, 1,900 years after the greatest and kindest of Beings passed through this world preaching the gospel of peace and brotherly love, men are still doomed to die because of their faith and because of their birth, is fearful and horrible. But these lines are not written to confirm such a truism, not even to point to these latest events. Rather the contrary. It is not in the interest of the grand cause which we all serve—humanity and justice—to dwell too much on such cases, because it may be thought that such massacres are really the most fearful wrong which is committed on these slaves. But this is not so. There are much more horrible things behind, and that is the position of these 3½ millions of Jews who live in European Russia. Hundreds have been killed in the last few years,

thousands have been exiled, 10,000's have been ill-treated and robbed—that is bad, very bad. But millions live, and have lived without law, without rights and justice, for hundreds of years. That is worse—it is the very worst thing that can happen to human beings.

Without rights—

The citizen of a happy state who enjoys the protection of the laws, the blessing of a just government as he enjoys air and light, cannot even imagine a different state of things. The inhabitants of the West will find it difficult to comprehend what terrors this word covers, and the more examples are offered the less comprehensible it becomes.

Your father has acquired thirty years ago an estate; he has paid the purchase-money and signed the contract before the authorities. He has lived on his land full twenty years, has become a peasant, and has educated you, his son and heir, also as a peasant. Then he dies contented, for he has provided for you as well as he could, and has delivered you by the toil of his hands from the curse of his race to wander without home over the earth, and to pick up your daily bread by trading and haggling. You have entered on your inheritance. The blessing of God has rested on your work. Your land yields plentifully, you pay regularly your taxes, and you can lay by every year a nice little sum, or employ it in improving your estate.

One day you receive a letter from the Government in which you are ordered to sell your land to a Christian within three months. In default of your doing so within the specified time, the authorities will be compelled to remove you and your family by force, and to sell your estate at your risk and expense by public auction. You don't believe your eyes and you rush into the town. "What have I done?" you ask the President of the district. "Nothing at all," he replies; "there is nothing against you but your being a Jew, and Jews may not possess any landed property at all." "But here is the contract of my father confirmed by the registrar of lands." "That is quite in order," says the President, soothingly; "and that being so we allow you to sell your property, or shall hand you over the auction price, if you will let it come to a forced sale. But go you must, for the law forbids you to own landed property. Of course there is leave and license given to me by the Minister to allow a Jew to remain by way of exception, if the petitioner offers the necessary moral guarantees, and so my predecessor has given your father leave to buy the land and confirmed the purchase. But I don't think so of you as he thought of your father; you don't appear to offer the necessary guarantee, and so I make you go." And now it depends upon whether you can bribe him, and pay the price which he will ask from you for considering you a moral man, or whether his greediness is above your fortune. Then, indeed, you must sell your estate for next to nothing and go away, but no wrong has been done to you, for you never had any rights.

Another case—

You have passed your examination in a technical school with credit, and enter the service of a railway company as Engineer. Your superiors are satisfied with you, you obtain a higher post, and occupy an agreeable social position. One day your director receives the peremptory order to dismiss you. The intercession of your superior is useless. You go yourself to the President of the Province. "I am really and truly sorry," he says, "but do be good enough to read yourself this General Order of the Ministry, which enumerates the situations and offices to which Jews may be admitted by way of exemption if they can deposit

the needful caution money. Railway engineers are not amongst them." You look at the date of this order, and if at that moment weeping were not more congenial to you than laughing, you would perhaps exasperate the official still more by an outburst of unfeigned hilarity. "Pardon me" you say timidly, "but this order was issued during the beginning of the reign of the Emperor Nicholas, and how could the Minister, without being a prophet, mention our profession?" This remark is not of the slightest use to you, but the reply which you receive depends upon whether the Official acts from malice or from cupidity. In the first case he will fall back upon the strict letter of the law. In the latter he will speak of doubts, etc., until his conscience and his pocket are satisfied.

I will mention a third case, also taken from life.

In the beginning of the reign of Alexander II., it was looked upon with pleasure by the government, and honestly encouraged by them, if Jews turned to industrial callings. They were permitted to establish factories even in places where Jews were not otherwise allowed to reside, only they had to pay the mercantile tax of the first guild. Based on this permission, a Mr. Alexander G. erected an oil-mill, in a little town in the district of Vladimar. His business flourished for fifteen years, until a new Police President came into the town. The man had a private quarrel with Mr. G., and resolved to be revenged on him. He summoned him to his office. "You employ Christian workpeople in your mill. The law forbids you to keep Christian servants. You have to dismiss the workpeople at once." Mr. G. asserted that, during the fifteen years in which he had employed Christian workpeople, there had never been a complaint on that ground. "I must, nevertheless, enforce the law," was the reply. The manufacturer had the only alternative—to close his mill, or to engage Jewish workpeople. But the moment the workpeople arrived in the little town, the Police President ordered them to appear before him. Jews may not live here, he who remains after to-morrow shall be punished, and will be removed by force. All remonstrances and entreaties of the manufacturer remain fruitless. I only enforce the law, said the official. But, the people may remain here, if you pay for them the tax as merchants for the first guild. Mr. G. had to sell his mill for a song, and go elsewhere with the remnants of his fortune.

I could relate a hundred similar stories, but these three must suffice. They are bad, very bad, but not nearly the worst, or the most striking of those which could be told. There remains the very poor consolation still, that in these cases only a few people had to suffer from the curse of the want of right and justice.

In the following cases even this consolation is wanting.

In May, 1882, I was in Bredy, at that time the chief quarter of the Russo-Jewish emigrants, when one day a group of refugees arrived, who even in those stirring times created a sensation. They were twenty men, all dressed in the same uniform, all railway guards. They, with a few more unfortunates, had been discharged on the same day without notice, and been deprived of their daily bread.

Since the days of the Empress Catherine, the profession of Apothecaries is in the hands of the Germans and Jews; native Russians take to it only rarely. There is no law which allows Jews to practise it, nor is there any which prohibits it. In 1881, the Minister of the Interior, Ignatieff, published his Ukase, which is so well known that we need not mention it any more. The existence of many hundreds of useful and honest citizens was endangered.

Two years afterwards a second ukase of Ignatieff's, successor to Count Tolstoi, re-established the right of Jewish Apothecaries, but for the damage which they had suffered in those two years, by either having to sell their business, or close their shops, they were never indemnified.

The town of Kiev is one of those places where Jews may not reside. The prohibition has never been enforced. They lived there in great numbers; the rich people in the town itself, the poor Jews in a separate quarter, the Fanbourg Podol, which runs along the River Dnieper. The latter suburb was at Easter-time, 1881, the theatre of one of the first and most cruel Jewish persecutions which ever occurred in Southern Russia. When Easter of 1882 was approaching, fresh alarming rumours of another persecution were rife, and the Governor of Kiev received orders to take measures in time to prevent another Jews' bait. He took his measures. At the commencement of April, all the Jews in Podol received the order to leave their homes within a week's time. Jews are not allowed to live in Kiev. All prayers and supplications were useless, the people had to sell their property for next to nothing, and go into exile. Of course, as there were no more Jews in Kiev, there were no more persecutions of Jews.

These are terrible stories, and it is hard to tell them quietly, but they are not the worst. But we are not altogether without consolation. These things were done in excited times; in the suffocating atmosphere of a wild and fanatical hatred of faith. But we, who believe in humanity, know that such dark days don't last for ever, and that they are succeeded by better times. The high growing waves of this hatred will go down again, perhaps quicker than they have risen.

The thought is depressing that so many human beings are completely in the power of a few ruling persons, and doubly so, because amongst these few there are some who are malicious and avaricious, and grossly abuse their power. But it would be wrong on our part, a great and serious wrong, if we saw in the entire official world of Russia nothing but a herd of corrupt and heartless men. Even about the bribery practised in Russia, the people in the west of Europe (where the goings on in the interior of Russia are as much known as the position of the people on the White Nile), have the most exaggerated ideas, and as to the depravity of the officials, there are most assuredly neither more nor less good men in Russia than elsewhere. The human heart is the same under all latitudes, and all the world over.

(To be continued.)

The production of Coal in 1883 was 163,750,000 tons, against 156,000,000 in 1882, and 153,200,000 tons in 1881. This is the largest amount of Coal yet produced in the United Kingdom, and is undoubtedly due to the great increase in the amount of steam tonnage. That the prices obtained were very low need not be mentioned, although they were not quite unremunerative.

Our contemporary, *Iron*, has admitted into its columns a controversy between Mr. F. J. R. Carulla and Mr. W. J. Jeans, the author of "The Creators of the Age of Steel," as to whom belongs the merit of being the discoverer of the use of Spiegeleisen in the making of Bessemer steel. We must confess that we always thought with Mr. Carulla that Mr. Robert Musket was the first inventor of it, but Mr. Jeans is very positive that Sir Henry Bessemer himself was the inventor. Without Spiegeleisen the invention of Sir Henry Bessemer would have been practically useless, and of no value whatever. Hence, the question is of importance. We hope it will be decisively settled.



## MONEY MARKET.

The Bank of England reduced the rate of discount to 3 per cent. on the 12th of March. The demand for money has been on a very moderate scale, and it seems evident that another reduction will soon be made. This is to be regretted, for next to very dear money nothing is worse for commerce than very cheap money. It is in such times that the foundation for crises is laid. It promotes unsound speculation, reckless trading and all those ills which can only be cured by those sharp remedies which certainly kill the evil, but also prove so baneful to the ordinary Merchant and Trader.

Quite a bevy of new Companies have been brought forward lately. Amongst them are—

Argentine Government 5 per cent. loan at 81½	£1,683,100
Natal Government 5 per cent. loan at 98	£1,130,200
Anglo-Servian Bank, Limited	£600,000
Glasgow Corporation 3 per cent. Loan	£500,000
Consolidated Land and Cattle Company, Limited	£400,000
Mexican Railway Company, second Mortgage Debentures	£266,500
New Zealand Shipping Company, Limited. New issue	£250,000
Merchant Shipping Guarantee	£250,000
Land and Loan Company of New Zealand	£100,000
Florida Investment and Agency	£100,000
North Mexican Silver Mine	£60,000
Irish Land Purchase and Settlement Company	£50,000
Lisbon-Berlyn Transvaal Gold-fields Co. Balance Capital	£50,000

The Anglo-Servian Bank will undoubtedly be a most remunerative investment if properly managed, as most of such undertakings have proved to be.

The Argentine Loan will also be quickly subscribed, as the Argentine Confederation is in a most flourishing condition, and has always scrupulously kept its engagements. The loans of the Glasgow Corporation and Natal Government need hardly be mentioned, as the security is so well known. But as to the numerous Cattle and Land Companies, a word of caution may be opportune. These companies are not looked upon with much favour in America as they put so much of the land, which is considered as the inheritance of native Americans, in the control of foreigners, and Congress may pass laws, and circumstances may arise which will make these investments anything but safe and profitable undertakings, leaving alone the question of management, which at such a distance is always one of vital importance, and not at all times to be depended upon.

English Railway shares have moved in the usual see-saw manner. One week they are up 1 to 2 per cent., the next they are down as much. On balance there are these changes in the prices of English railways:—A rise of 3½ per cent. in Great Eastern; 3½ in Brighton A; 3 in North-Eastern; 2½ in South-Eastern A; fall of 2 per cent. in Caledonian; 1½ in Great Western; 3½ in North-Western; 2½ in North British.

American Railways are still much out of favour, and have fallen considerably. English investors should avoid investments which are entirely in the hands of the Presidents of the railways, and can be manipulated by them at will.

Water Companies shares have fallen considerably. The City of London Corporation Water Bill having been thrown out in the House of Commons, these shares rose for a moment, but most of the advance has since been lost.

THE Bank Rate has just been reduced to 2½ per cent.

At the Masher Nigger Minstrel entertainment, given at the Central Hall, Bishopsgate, "Bruder Bones" said he bought two birds, but didn't know what they were. He afterwards called one of them "Wheeler" and the other "Wilson." Why? Because, he replied, they were not "Singers."

## EXHIBITION NOTES.

THE WHEELER and WILSON MANUFACTURING COMPANY obtained the only award and first class certificate at the Calcutta Exhibition.

THE Jury are at present passing the awards at the International Exhibition at *Nice*. The White Sewing Machine Company, after the triumph at Amsterdam, are expecting to receive the highest award; they are exhibitors at the International Exhibition shortly opening at Turin, where their machines will be worked by electric motors.

EXHIBITIONS.—An exhibition of Spanish textile goods and the manufactures of Spain generally is to be held at Madrid in September and October of next year. An exhibition of tobacco, raw and manufactured, and of the tools, implements and machinery used in its cultivation and preparation, is to be held at Ponce, Puerto-Rica, from the 1st to the 16th of this month. The Imperial Government of Russia is organising for the year 1884 an exhibition of sheep at Khazkord, at which all foreign breeders are invited to exhibit. An agricultural and vinicultural exhibition, to include collections of machinery, tools, and implements, is to be held in Lisbon in May, 1884.

AN International Electrical Exhibition is to be held at Philadelphia, U.S.A., commencing on Tuesday, September 2nd, 1884, under the auspices of the Franklin Institute for the promotion of the Mechanic Arts. From the high reputation of this institution, coupled with the fact that the projected exhibition will be the first in America exclusively devoted to electricity, the announcement has attracted unusual interest in the States.

INTERNATIONAL HEALTH EXHIBITION, LONDON.—The Exhibition will be opened by the President, His Royal Highness the Prince of Wales, on Thursday, the 8th of May, at 3 p.m.

### THE LATE BARONESS LIONEL DE ROTHSCHILD.

THE *Jewish Chronicle* says the following is a complete list of the charitable bequests made by the late Baroness Lionel de Rothschild: Jews' Free School, Spitalfields, £15,000; Jewish Board of Guardians, £10,000; London Hospital, £10,000; Evelina Hospital, £10,000; Jews' Infant Schools, £3,000; Westminster Jews' Free Schools, £3,000; Stepney Jewish Schools, £3,000; Bayswater Jewish Schools, £3,000; West London Hospital, £3,000; Jews' Hospital and Orphan Asylum, £3,000; Jewish Emigration Society, £3,000; Jewish Ladies' Loan and Benevolent Society, £3,000; The Clementina Hospital at Frankfurt, £3,000; Jewish Convalescent Home, £2,000; German Hospital, £2,000; Metropolitan Free Hospital, £2,000; Jews' Deaf and Dumb Home, £2,000; Ladies' Conjoint Visitation Committee, £2,000; Jewish Ladies' West-end Charity, £1,000; Jewish Bread, Meat and Coal Charity, £1,000; Institution for the Oral Instruction of the Deaf and Dumb, £1,000; Buckinghamshire Infirmary, £1,000; Royal Sea Bathing Infirmary, Margate, £1,000; Hospital for Incurables, Putney, £1,000; Infant Orphan Home, Wanstead, £1,000; Asylum for Idiots, Earlswood, £1,000; St. George's Hospital, £500; Jewish Ladies' Lying-in Charity, £500; Institution for the Relief of the Indigent Blind, £500; Jewish Society for the Aged Needy, £500; the charities of Frankfurt (other than the Clementina Hospital above mentioned), £2,000; to the United Synagogue, the interest to be applied to increase the stipends of officiating ministers, £500. In addition to the foregoing specific bequests, the Baroness expressed a wish—which her sons will consider as a command—that in affectionate remembrance of her, all her benefactions shall be continued by her sons as during her lifetime. The extent of these benefactions is far greater than the public are aware. They, of course, include the maintenance of the Kitchen for Invalids and the Home for Incurables, which have been carried on at the sole expense of the Baroness for upwards of a quarter of a century.

THE Howe Machine Company are almost buried in correspondence from parties desiring to handle the New Howe. The destruction of their factory, and prompt restoration with the concomitant press notices, has had the effect of a tremendous advertisement.



To the Editor of the "Sewing Machine Gazette."

Imperial and Royal Austro-Hungarian  
Consulate-General.

11, QUEEN VICTORIA STREET,  
LONDON, E.C., 1st March, 1884.

Sir,—I beg to inform you that an International Exhibition of Motors and Implementary Machinery for the smaller Industries will be held at Vienna, in the localities of the I.R. Horticultural Society, by the Industrial Corporation of Lower Austria, under the Protectorate of H. I. and R. H. the Archduke Carl Ludwig.

The Exhibition will be opened on the 24th of July, and will close at the latest by the 12th October, 1884, and will contain the following groups:—1. Motors (up to thirty horse-power). 2. Transmitters. 3. Tools, Implementary Machinery and working appliances. 4. Physical and chemical apparatus. 5. Means of reproducing graphic impressions. 6. School and Teaching Appliances for technological instruction.

Applications should be addressed, not later than the 1st of April, 1884, "Un den Niederösterreichischen Generebeverein I Eschenbachgasse 11, Wien, Austria," on forms obtainable from the first-mentioned quarter.

There will be no prizes awarded, but each Exhibitor will receive a Memorial Medal and Certificate of Participation at the Exhibition.

Motors and Machineries will be examined and tested by a special Commission, that will give Certificates of the results of such trials.

Requesting you to bring the above to the notice of your readers, free of charge, and anticipating my best thanks for your courtesy,

I have the honour to remain,

Your obedient Servant,

SEELIGE,

ACTING CONSUL GENERAL.

## THE MANUFACTURE OF BESSEMER STEEL.

PRODUCE OF INGOTS—GROSS TONS.

	1880.	1881.	1882.	1883.
Great Britain.....	1,044,382	1,441,719	1,673,649	1,553,380
United States .....	1,074,262	1,374,247	1,524,787	1,447,345
Excess United States ..	29,880	—	—	—
Excess Great Britain ..	—	67,472	158,962	76,035

PRODUCE OF RAILS—GROSS TONS.

	1880.	1881.	1882.	1883.
United States .....	852,195	1,187,770	1,284,067	1,148,709
Great Britain.....	739,910	1,023,740	1,235,785	1,097,174
Excess United States ..	112,286	164,030	48,282	61,535

## THE WATER COMPANIES AND THE RATE-PAYERS.

THE supply of water is such an important element in a house, that the position of the London householder towards the Water Company, after the recent decision of the House of Lords, in Dobbs's case, is well worth enquiring into. Much has been written and much has been said, but we believe that the real result of this decision is not yet understood. We therefore give an outline of the case as it stands at present.

The *Daily News* has given a very correct statement of the situation, and we therefore print it in *extenso*, though there is another phase of the matter which has recently cropped up, and with which we will deal hereafter.

"The decision rests not on Mr. Dobbs's special position as an owner, nor on the private Act of the Grand Junction Water Company, but upon the general law as to annual value. Attempts were made to show that this representation was a mistaken one. The chairmen of some of the Water Companies boldly informed their shareholders that the decision did not apply to them, and some of our contemporaries contended that the case did not affect any one who were not, like Mr. Dobbs, owners of the houses in which they dwelt. These views, however, rested on want of complete knowledge as to the law which applies to the rating of houses in London. It was contended, for example, that as Mr. Dobbs did not pay rent, the ascertaining of the 'annual value' of his house, on which the larger part of the water-rate is charged, had to be done by a special process, and that the dispute had arisen over this process. Where rent is paid, it was argued, no such question as to the 'annual value' can arise, and consequently Mr. Dobbs's case does not apply to it. But rent is only one element in the determination of 'annual value' in London, and this determination for all legal purposes is made in the same way, whether the house is let to a tenant or is occupied by its owner. There are probably few London householders who are paying either the parochial rates or the exaction called the water-rate on their actual rental. The probability is that they pay parochial rates on an assessment which is lower than the rent, and that the water-rate and the house-tax are demanded on an assessment which is higher than the rent. But these assessments are fixed every five years under the Metropolis Valuation Act, and the 'annual value' of every house in every parish in London is set forth in a list called the 'Valuation List.' This annual value is the 'gross value,' that is to say, it is the rent which a tenant would be expected to pay for the house, if he paid no premium on entering it, and merely held it under an ordinary tenancy, paying only tenants' rates and taxes, and leaving repairs and landlords' rates to the landlord. Householders will find on the demand notes now in their hands for the rates which are in course of collection the following notice: 'Tenants are entitled to deduct against, or be repaid by, their landlords the sum paid for sewers-rate, except where the same is agreed to be defrayed by the tenant, and where any portion of the Metropolitan Consolidated Rate represents any rate which for the purposes of any contract or otherwise is deemed to be a landlord's or tenant's rate, such portion shall for those purposes be deemed to be such landlord's or tenant's rate, as the case may be.'

"It is obvious that where the tenant agrees when taking a house to pay any of these rates, or to do the landlord's repairs, the sum so expended by him is part of the con-



sideration which he pays the landlord for the use of the house, and hence is practically rent. Moreover, if he pays a premium to go in, that is practically rent; and all these are allowed for in estimating the annual value of the premises. It is what they would actually fetch if they were to let. Where the occupier owns his house, this value has to be determined on the same principles deduced, in fact, from the letting value of surrounding property. The annual value thus determined is set forth in the 'Valuation List' which is published every year.

"But this 'annual value' is not the rateable value. Following the lines of Lord Bramwell's decision, it may be described as 'gross value.' Lord Bramwell, in delivering the judgment of the House of Lords in this case, said: 'Now, gross value is different from value. It is, though a convenient, an inaccurate expression, like "gross profits." The difference between what a thing costs and the larger sum it sells for is not profit if the buying and selling are attended with expense to the trader. Value is "net" value, and involves those deductions from rent which the appellant claims.' The Valuation Act proceeds on the principle thus explained by Lord Bramwell. It provides that the Valuation List shall be made out in a certain form, setting forth, in addition to other details, the gross value as estimated by overseers, the gross value as reckoned by the Assessment Committee, the rate per cent. of the deductions made in order to find the rateable value, the rateable value thus formed, and, lastly, the gross value as finally determined by the Assessment Committee, and the rateable value as so determined. The third schedule to the Metropolis Valuation Act fixes, not indeed the actual deduction to be made from the gross value in order to find the rateable value, but the maximum of such deductions. It will usually be found that the deduction actually made comes near the maximum. The first three classes in this schedule are those which apply to the householders of London generally. These are—

"Class 1.—Houses and buildings, or either of them, without land other than gardens, where the gross value is under £20—25 per cent., or one-fourth.

"Class 2.—Houses and buildings without land other than gardens and pleasure-grounds valued therewith for the purposes of inhabited duty where the gross value is £20 and under £40—20 per cent., or one-fifth.

"Class 3.—Houses and buildings without land other than gardens and pleasure-grounds valued therewith for the purposes of inhabited house duty where the gross value is £40 or upwards—16 2-3 per cent., or one-sixth.

"In pursuance of this Act Mr. Dobbs' house was stated in the Valuation List to be of the gross value of £140 a year. The deduction made to find the rateable value was a little less than one-sixth, so that the rateable value was fixed at £118. The Grand Junction Company, being empowered to charge their rate of 4 per cent. on the 'annual value,' took, as all the companies do, the higher sum. Mr. Dobbs objected; and after long litigation the highest court in the realm decided that he was only liable to pay on the lower or net value. This is where the matter now stands. It is clear that it affects all the Companies in whose Acts the words 'annual value' are used. It is believed that these words are employed in all their Acts, and that this important decision consequently applies to them all. It seems, however, that this interpretation of it is not yet accepted, and the Islington Vestry have resolved to ask the New River Company what they mean to do in the matter.

A question arises whether, having made this overcharge—having levied from every householder for years a larger sum than they had power to levy, the companies should not be compelled to refund. In reply to this very natural and appropriate question, it is contended on one side that, although money paid under a mistake as to fact can be got back, money paid under an erroneous impression as to the law is not recoverable. But the other side say that, though this is true, it applies only to payments made voluntarily, and that these water rates have all been paid under compulsion: so that the rule which applies to mistakes of law does not apply in this case. This is a point which will probably have to be settled by a court of law. So as to the application of the authorised interpretation of the term 'annual value.' It is contended that even where the companies accept the decision as applicable to them they are not obliged to take the Valuation List as their authority, and the Grand Junction Company, it is said, are taking steps to make a new valuation on their own account of the whole district. As they can have no right to ask, and will certainly not get, such returns from occupiers as the assessment committees are empowered to demand, it seems difficult to understand in what way they will profit by this proceeding, supposing it to be undertaken. If their estimate of 'net' annual value is the same as that of the Assessment Committee, they will have had their trouble and expense for nothing. If it is higher, there will be good grounds for disputing it, and it will be disputed. On the whole, it is probably good advice to the ratepayers to demand particulars of any water rate they may be called on to pay. Among these particulars the chief item will be the percentage charged on the annual value. What this percentage ought to be, and what the other charges additional to it are, will be seen in a statement appended to this article in our next issue. If the annual value on which the charge is made is the same as that on which the parochial and other rates are levied, the ratepayer will have no reason to complain; if it is higher, the demand is probably an illegal one, which cannot be enforced. The Water Companies will be well advised if they do not attempt to enforce it. The true course for them to take is to accept the decision of the House of Lords and to put up with the temporary loss it may entail. They should henceforth levy their rate on the 'rateable value,' and should take that rateable value from the Valuation List. Perhaps if they did this the question of refunding what has been collected in excess of their powers might not arise. If, however, they go on making the old demands, they will provoke not only resistance but a resentment which will in the long run prove much more detrimental to their interests than the loss caused by the small reduction of their rates. They may contend that hitherto they have charged on the gross value in the full belief that they had a right to do so, but that plea will no longer avail them now that the meaning of the word 'annual' has been finally and authoritatively defined.

(To be continued.)

At the International Exposition now in progress in the city of Nice, in the south of France, there is a good display of European sewing machines, but America is represented by only one company, the White. Perhaps American sewing machine manufacturers are beginning to feel that European expositions only afford an excellent opportunity for European manufacturers to copy the results of their ingenuity.

## MOTORS FOR SEWING MACHINES.

THE Americans, whose opinion on anything connected with sewing machines is entitled to great consideration, have paid much attention to the subject of motors for sewing machines, long before we here gave it a thought. No doubt the matter is one of much interest, for it has long been considered a great defect in the working of sewing machines that the attendants have to move it themselves, either with hand or foot, the latter being as dangerous in the long run for health as the former is troublesome and inconvenient. There are several modes of driving a sewing machine—one, which has been more tried and experimented upon than any other, being the spring motor, which is wound up like an ordinary clock. But the Americans find this motion irregular and difficult to adapt to the steady working of a sewing machine. After several years of trials and experiments, that motor has been abandoned pretty generally, and now there are some new ones spoken of as deserving attention. One is the Dohis motor, which is a spring acted upon by the movement of the body, and intended to give the foot only a minimum of work—that is to say, merely sufficient to set the spring in motion, and keep it working and regulated for twelve times the duration of the movement exerted by the foot. Whether the advantages of this machine are equal to the expectations of the inventor time must show.

But the motor which appears to us as most deserving of attention, and more likely to be of practical value than any other, is the water motor, a small water-wheel or turbine, which is moved by a small jet or column of water taken from the ordinary house supply. There is no doubt that sufficient power can be obtained from the source with tolerable regularity, which is the principal point to be considered in driving a sewing machine.

Next to this there is the expense, which also is a favourable item in this arrangement, as the amount of water sufficient for this purpose is very small, so that the water companies will hardly be able to make an extra charge for it.

The constant working of the feet on the treadle of a sewing machine undoubtedly affects the spine, and may lead to paralysis. An apparatus which prevents this will, therefore, make the sewing machine doubly useful, and we hope that nothing will interfere with its successful introduction and working, as it will vastly increase the use of the sewing machine, and induce people to purchase one where otherwise they would have hesitated to do so.

We believe that the working of the sewing machine in households by water is only a question of very little time, and that before long it will be the rule to do so.

## CONTINENTAL SEWING MACHINE FACTORY.

The "Dresdener Anzeiger" No. 42, contains some interesting particulars about the new factory of Mr. Bruno Naumann (firm of Seidel and Naumann), of Dresden, from which we extract the following:—

"The five stories high middle-building which projects considerably, has on both sides wings four stories high, which again are flanked by higher buildings at right angles.

"By this arrangement the front of the building is divided into five distinct parts, by which the principal building loses its monotony, which otherwise would easily affect the eye in a disagreeable manner.

With this principal building are still connected two side-buildings, so that the whole offers an imposing sight.

"The interior has been carefully arranged, in order to avoid the possibility of a fire; fire-proof walls, vaults, separation of the most dangerous rooms, in one word, all has been carefully planned, in order to give it as little scope as possible if a fire should break out.

"In the centre of the building is the engine-hall, the home of the compound steam-engine of 200-horse power, which puts in motion the whole machinery. The walls of this hall are covered with marble, which looks very elegant in contrast with the bright parts of the engine that stand here. An adjacent locality contains the dynamo-electric machine which feeds the Edison electric lamps.

"In the court, in the immediate vicinity of the engine, is the large boiler-house.

"The 22 large working halls cover together a space of 9,800 square metres, the stores 550 squ. M, the offices and master's working rooms take up 400 squ. M, dwelling-rooms 350 squ. M, and the engine hall 110 squ. M. The upper stories can be reached by means of three staircases and four lifts, while the large corridors are provided with rails so that the material can easily be conveyed from one hall to another.

"The number of windows in the whole building is 800.

"The comfort of the workmen has also been carefully taken into consideration. The gigantic building contains a large number of washing and dining-rooms, &c.

"Level with the ground are in the middle building the rooms where the smaller parts of machinery are stored up. Millions of screws and other small parts lie here, awaiting the moment that they will be used in the construction of the iron seamstress, which has conquered the world and whose conquest is of longer duration than that of the great Napoleon.

"About the life and bustle within the factory we shall speak afterwards, when it is in full activity. As a particularly we can tell that 2,800,000 bricks have been used in this building in the short time of 3½ months.

"They are now very busy removing to the new quarters, and it was high time indeed, for the business had become too large for the old factory. In the old building there were 800 workmen crawling like bees in a bee-hive, whilst the correspondents and book-keepers elbowed each other at their desks, therefore nobody need be astonished that they are all happy in going to more roomy and airy quarters.

"Our best wishes for the success of this concern may accompany them to the new establishment, which shows again what energy can do, and we shall fully describe this firm's manufactures in future issues." Mr. CHILD, 1 and 2, Chiswell Street, London, is their English representative.

## THE METAL INDUSTRIES.

The iron industry is not in a very bad condition as yet, only it is quite certain that its state will be, before long, very much worse than it is now. Ship and steamer building, which has hitherto supported and sustained iron, engineering and machine making in all their branches, is getting from bad to worse, and orders are difficult to obtain, the freight market being greatly overstocked, and duller than it has been for many years. It is hard to see when and where an improvement is to be looked for, until the excess of shipping is absorbed, either by new routes or lines of steamers being created, or by the wearing out or loss of the old steamers. As the former is not likely to take place and the latter is a question of time, it is clear that a rise in freights is not to be expected during this or next year.

In iron shipbuilding this country has practically a monopoly. All nations who want steamers for mercantile purposes come here, and in fact a great part of the activity in shipbuilding lately witnessed has been sustained by orders chiefly from France, where shipowners get large bounties from the Government. This demand seems to be now satisfied.

But in other engineering works, engines, tools, &c., this country has by no means a monopoly, and other nations are now supplying



themselves with what they require, and are even sending to other countries. Thus Italy, which has looked to England and Scotland hitherto for all they required in hardware, tools, rails, engines, and wagons, are buying these articles in Germany, where, strange to say, they can do so much cheaper. These goods, to be sure, are not so well finished as English ones, but they answer all purposes.

The Bessemer steel makers feel competition very keenly. Now that most of the English lines are relaid with steel rails which last from ten to twenty years, and railway building has become slack on account of the difficulty of raising the capital for the purpose, railmakers are in a very bad position. They have lately raised their prices from £4 5s. to £4 15s. for heavy sections, but we doubt whether many orders have been given at these prices, and should the scarcity of orders continue there can be no question that this advance will be lost very soon. An artificial price can never be maintained in the face of idle works. At £4 5s. there is no profit on the making of steel rails, even if we take into consideration the present much improved mode of manufacture.

Hematite pig-iron is worth 47s. per ton nett in Cumberland. On the East Coast it is worth 48s. Ordinary Scotch pig-iron sells at 42s. 6d., and Cleveland pig-iron at 39s. 6d. Bars are worth £5 to £5 2s. 6d. Ship plates yield the same price. Angles £4 15s. Boiler plates £6 2s. 6d. Sheets £6 15s. to £7.

The Birmingham market for ironmongery and every thing else is as dull as all the others.

The German market is in a much better condition, especially the Westphalian Iron masters and Engineers, whilst the Silesian Iron trade is complaining that they cannot compete with the Rhenish iron-works.

## A NEW TUG OF WAR.

ENGLISH prodneers of various forms of steel and iron are being worried no little by German competition. This is especially the case in steel plates for ship armour, sheathing hulls and like uses. These plates are made in Germany for about £1 per ton less than they can be in England, and the freight on them from Hamburg to English shipyards is only about 60 cent. So Germany is carrying off a great deal of this work right under the eyes of Sheffield. Perhaps England would be the better of a little protection from the competition of productive Germany.

We fail to see where the Germans' protection doctrine begins or ends, when the side door of a neighbouring or distant nation is left a little way open for the Dutchman to squeeze in. Old England is a fool, and the Americans are no better if they mean to let Mexico wear the German saddle or collar of German trade and commerce, as it bids fair to do. We must stir ourselves a little more than heretofore, or our companies will find themselves sold ("under sold") when they go to Mexico to do a larger trade, only to find that the German got there long before they did.

A PROSPECTUS has been issued of the Cyclists' Assurance Corporation, Limited, with a capital of £100,000 in 100,000 shares of £1 each, payable as follows:—2s. 6d. on application and 7s. 6d. per share on allotment; the balance, if required, in sums not exceeding 2s. 6d. per share, and at intervals of not less than three months. There is a good list of patrons and an efficient body of directors and officers, and the offices of the Corporation are at 15, Coleman-street, London. The object is to ensure against damage to machines by accident (a risk not otherwise provided against), and against personal injuries to cyclists.



The following list has been compiled expressly for this Journal, by Mr. G. F. Redfern, Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.

## APPLICATIONS FOR LETTERS PATENT:—

- No. 3330. H. J. Brookes, of Smethwick, Staffordshire, for improvements in the construction of velocipedes, called convertible tandems. Dated February 15, 1884.
- " 3333. T. W. Gorse, of Birmingham, for the manufacture of escutcheon pins and nails to withstand exposure. Dated February 15, 1884.
- " 3339. T. B. Howard, of Coventry, for improvements in triecycles. Dated February 15, 1884.
- " 3344. J. K. Macdonald—a communication from The Singer Manufacturing Company, of New York, United States, for improvements in button-hole sewing machines. Dated February 15, 1884.
- " 3345. H. Springmann—a communication from T. Springmann, of Hagen, Westphalia, Prussia, for improvements in the manufacture of pins for butt hinges. Dated February 15, 1884.
- " 3354. T. Welton, of Ladbroke Grove-road, Notting-hill, London, for improvements in portable water-closets and means of constructing the same. Dated February 15, 1884.
- " 3356. C. F. Gardner—a communication from H. C. Gros, of Cannslatt, Germany, for improvements in sewing machines chiefly designed for the manufacture of boots and shoes. Dated February 15, 1884.
- " 3359. J. Hinks, of Birmingham, for improvements in lamps for burning light or volatile oils. Dated February 15, 1884.
- " 3362. G. W. Lyth, of Stockholm, Sweden, for improvements in burners and lamps for mineral oils or their equivalents. Dated February 15, 1884.
- " 3368. J. Battes, of Bradford, Yorkshire, for improvements in dollys for washing clothes. Dated February 15, 1884.
- " 3393. H. W. Tyler, of Bath, for supplying water to kitchen range and other boilers and cisterns. Dated February 16, 1884.
- " 3394. J. Simonton, of Cumber, Ireland, for an improved method of propelling and using a unicycle, or one-wheeled velocipede, and appliances therefor. Dated February 16, 1884.
- " 3395. G. J. Harcourt and B. W. Horsforth, both of the Clifton, Bristol, for improvements in culinary utensils. Dated February 16, 1884.
- " 3397. W. P. Thompson—a communication from H. E. Vigneron, of Paris, for improvements in and relating to sewing machines, and in electrical devices for working the same. Dated February 16, 1884.
- " 3400. P. Watkins, of King's Mill, Painswick, Gloucestershire, for improvements in hair-pins. Dated February 16, 1884.
- " 3408. F. A. Ruthen, of Brighton, for the application to bicycles, triecycles, and any other wheeled vehicles or apparatus for carrying umbrellas, sunshades, &c. Dated February 16, 1884.

- No. 3427. A. M. Clark—a communication from D. Morris, of Loglabin, Ohio, United States, for improvements in lock. Dated February 16, 1884.
- „ 3434. W. Bennett, of Saint John's Wood, London, for an improved bicycle. Dated February 16, 1884.
- „ 3442. A. Kinnear, of Camomile Street, London, for an improved self lighting gas burner and tap. Dated February 16, 1884.
- „ 3467. W. H. Richards, of Birmingham, for an improvement in metallic screws. Dated February 18, 1884.
- „ 3478. J. Walker, of Birmingham, for an improvement in turn buttons and plates for door and window fasteners. Dated February 18, 1884.
- „ 3491. A. H. Thompson, of Poplar, London, for improvements in cleaning boots by machinery. Dated February 18, 1884.
- „ 3496. C. J. Griffith, of Shacklewell Lane, London, for an improved mechanical motor for sewing machines. Dated February 18, 1884.
- „ 3502. F. C. Hary, of Pall Mall, London, for improvements in open air braziers or stoves. Dated February 18, 1884.
- „ 3508. J. Currall, of Birmingham, for improvements in kitchen or cooking ranges and cooking stoves. Dated February 18, 1884.
- „ 3511. A. J. Eli, of Francis Street, Tottenham Court Road, London, for improvements in the construction of velocipedes. Dated February 18, 1884.
- „ 3512. R. D. Sanders, of Norwood, Lervzie, Dumbartonshire, for improved means for actuating sewing machines and other light machines. Dated February 18, 1884.
- „ 3532. E. Burston, of Horsham, Sussex, for improvements in velocipedes. Dated February 18, 1884.
- „ 3535. H. H. Lake a communication from M. L. Gaillard, of Paris, for an improved device for regulating the supply of gas to gas burners. Dated February 18, 1884.
- „ 3545. J. Southall, of Worcester, for improvements in dumb bells. Dated February 19, 1884.
- „ 3546. J. Deeley, of Birmingham, for an improved automatic flushing apparatus and water waste preventer for water-closets, urinals, and other similar purposes. Dated February 19, 1884.
- „ 3549. W. P. Thompson—a communication from C. E. Duryea of Saint Louis, United States, for improvements in saddles and their fastening devices for bicycles, tricycles, and other velocipedes. Dated February 19, 1884.
- „ 3559. A. Waters, of Croydon, for improvements in cistern float valves. Dated February 19, 1884.
- „ 3566. T. Singleton, of Bank Top, Over Darwen, Lancashire, for improvements in holders for gas burners. Dated February 19, 1884.
- „ 3567. T. Singleton, of Bank Top, Over Darwen, Lancashire, for improvements in taps for water and steam. Dated February 19, 1884.
- „ 3578. F. B. Hill, of New Cross, London, for improvements in filters. Dated February 19, 1884.
- „ 3585. G. Shrawsbury, of Brixton, for improvements in or applicable to the construction of water heating apparatus. Dated February 19, 1884.
- „ 3591. B. J. Mills—a communication from J. Guyot, of Lyons, France, for improvements in permutation or combination locks. Dated February 19, 1884.
- „ 3594. A. Wilson, Awlay Steel, Surrey, and R. Bradshaw, of Elmer's Inn, Kent, for improvements in filters. Dated February 19, 1884.
- No. 3594. J. Roots, of Bishopsgate-street, London, for an improvement in oil lamps. Dated February 19, 1884.
- „ 3595. A. J. Boulton—a communication from P. A. Winson, of Pozzes, in Belgium, for an improved automatic winder for the spools of sewing machine shuttles and in the shuttles. Dated February 19, 1884.
- „ 3604. A. Hohlhoper and P. Gerlach, both of Bath-street, City-road, London, for an improved construction of kitcheners. Dated February 19, 1884.
- „ 3612. T. Coltman, of Leicester, for improvements in knitting machines. Dated February 20, 1884.
- „ 3618. C. Gill, of Aderalton-lane, near Bradford, for improvements in grate bars. Dated February 20, 1884.
- „ 3621. S. J. Collier, of Boston, for improvements in the construction of driving gear to obtain two or more speeds, and free pedals on tricycles and other velocipedes. Dated February 20, 1884.
- „ 3623. W. H. Copas, of Egham, Surrey, for improved tricycles or other wheeled vehicles parts of which are applicable to other purposes. Dated February 20, 1884.
- „ 3625. J. W. Saunders, D. T. Davies, and J. A. Macdonald, all of Birmingham, for improvements in perambulator hood rests or stays which improvements are also applicable to other like hoods. Dated February 20, 1884.
- „ 3628. A. B. Ball, of Sheffield, for improvements in the construction of pocket knives or spring cutlery. Dated February 20, 1884.
- „ 3635. W. Cooke, of Beckenham, for an improved apparatus for driving velocipedes. Dated February 20, 1884.
- „ 3641. H. W. Godfrey, of the Hythe, Staines, for an improved crank, with an automatically variable stroke for velocipedes. Dated February 20, 1884.
- „ 3672. S. Lovett, of Nottingham, for improvements in sewing machines. Dated February 21, 1884.
- „ 3675. R. Foxcroft, of Mytholmroyd, Yorkshire, for an improved steam washing machine. Dated February 21, 1884.
- „ 3676. W. F. Mason, of Longsight, Manchester, for improvements in ovens for baking purposes. Dated February 21, 1884.
- „ 3691. W. Rocke, of Manchester, for improvements in open fire-places or grates for increasing the heating capabilities thereof. Dated February 21, 1884.
- „ 3693. J. G. and W. Goodson, both of Vauxhall, London, for improvements in gas burners. Dated February 21, 1884.
- „ 3706. B. Cars, of Shoreditch, London, for improvements in lamps. Dated February 21, 1884.
- „ 3707. D. W. Suggs, of Westminster, London, for improvements in the arrangement of gas-burners, and in means of supplying air thereto. Dated February 21, 1884.
- „ 3739. J. and H. Lucas, both of Birmingham, for an improved oil-can. Dated February 22, 1884.
- „ 3741. J. Parker, of Birmingham, for improved door-locks. Dated February 22, 1884.
- „ 3746. T. White, of Birmingham, for improvements in nut-crackers. Dated February 22, 1884.
- „ 3754. H. Couolly, of Hampstead-road, London, for improvements in attaching water-closet basins to their traps.
- „ 3759. C. Ibbotson, of Sheffield, for improvements in the construction and manufacture of scissors and shears. Dated February 22, 1884.
- „ 3761. J. Watson, of Oldham, for improvements in stitching machines for stitching and cutting fabrics simultaneously. Dated February 22, 1884.
- „ 3765. E. C. Bellamy, of Birmingham, for improvements in or connected with the burners of oil-lamps, chiefly



- applicable to velocipedes and other analogous purposes. Dated February 22, 1884.
- No. 3768. W. Carr, of Surrey-street, Old Kent-road, London, for improvements in service supply valves or taps for hot or cold water and other liquids or gases. Dated February 22, 1884.
- " 3774. E. A. Brydges—a communication from W. Fischbach, of Berlin, for improvements in safety apparatus for preparing decoctions of coffee and for similar purposes. Dated February 22, 1884.
- " 3776. S. F. Pichler, of Great Portland-street, London, for improvements in velocipedes. Dated February 22, 1884.
- " 3787. H. S. Paget, of Little Heath, Potter's Bar, for improvements in the sewing machine appliances for fancy work. Dated February 22, 1884.
- " 3799. T. Jefferies, of Birmingham, for improvements in carriages and perambulators and basket carriages for trade and domestic purposes. Dated February 23, 1884.
- " 3802. T. Thomas, of Hanley, Staffordshire, for improvements in lamps for burning Polatile, hydro-carbon, and other oils. Dated February 23, 1884.
- " 3806. W. Payne, of Birmingham, for cooking potatoes and certain other vegetables by steaming. Dated February 23, 1884.
- " 3818. C. Ibbotson, of Sheffield, York, for improvements in the construction and manufacture of razors. Dated February 23, 1884.
- " 3819. J. Ludlow, of Birmingham, for improvements in the roses of watering cans, also applicable to other similar purposes. Dated February 23, 1884.
- " 3831. R. W. Cowen, of Dalston, near Carlisle, for an improvement or improvements in spades and shovels and agricultural forks. Dated February 23, 1884.
- " 3832. C. Quitmann—a communication from T. Hermann, of Dresden, Germany, for an improvement in frames for suspending lamps. Dated February 23, 1884.
- " 3841. F. Wirth—a communication from A. Winterhalder, of Schwarzenbach, of Germany, for improvements in alarm clocks. Dated February 23, 1884.
- " 3851. J. Hall, of Wharfedale Chambers, Sheffield, for improvements in tea pots, coffee pots, and other similar articles. Dated February 25, 1884.
- " 3857. W. S. McLeirce, of New York, United States, for an improvement in hanging lamps. Dated February 25, 1884.
- " 3858. C. Darrah, of Manchester, for an improved kettle stand or trivet. Dated February 25, 1884.
- " 3866. J. W. Saunders, D. T. Davies, and J. A. Macdonald, all of Birmingham, for improvements in head rests for perambulators, invalids' chairs, barbers' and photographers chairs, and for other like purposes. Dated February 25, 1884.
- " 3867. J. D. Smith, of South Bank, Yorkshire, for improvements in ball bearings for bicycles, tricycles, &c. Dated February 25, 1884.
- " 3869. W. S. McLeirce, of New York, for improvements in lamps. Dated February 25, 1884.
- " 3872. J. Smeaton, of Imperial Buildings, London, for improvements in water-closets, with waste water preventer to the supply. Dated February 25, 1884.
- " 3895. W. H. Beck—a communication from L. C. Pinel, of Paris, for a new or improved automatic apparatus for extinguishing candles. Dated February 25, 1884.
- " 3904. A. Martin, of Birmingham, for improvements in oil lamp suspensions or chandeliers. Dated February 25, 1884.
- No. 3906. G. Haycroft, of Lyme Regis, Dorsetshire, for improvements in filters. Dated February 25, 1884.
- " 3908. J. Leedham, of Walkley, Sheffield, for an improved ash pan for fire-places. Dated February 25, 1884.
- " 3913. W. Devoll, of Erdington, near Birmingham, for an improved double syphon for flushing water-closets drains and sewers. Dated February 26, 1884.
- " 3923. A. Acaster, of Rotherham, for improvements in and connected with stoves. Dated February 26, 1884.
- " 3929. G. Woodhall, of Aston, Birmingham, for an egg divider. Dated February 26, 1884.
- " 3939. L. D. York, of Portsmouth, Ohio, United States, for improvements in apparatus for producing and burning gas for heating purposes. Dated February 26, 1884.
- " 3944. A. B. Woakes, of Harley-street, Cavendish-square, London, for a new and improved construction of hollow rims for the wheels of velocipedes and other light vehicles. Dated February 26, 1884.
- " 3947. E. De Pass—a communication from R. Lasky, of Paris, for improvements in chimneyless lamps. Dated February 26, 1884.
- " 3956. J. Friboiry, of Great Portland-street, London, for improvements in fire-escapes. Dated February 26, 1884.
- " 3957. A. J. Boulton—a communication from G. A. Stiles, of West Gardner, Massachusetts, United States, for improvements in the manufacture of wood screws. Dated February 26, 1884.
- " 3961. J. T. Hirecock, of Birmingham, for improvements in folding velocipedes. Dated February 26, 1884.
- " 3971. E. Pearson, of Old Kent-road, London, for improvements in water-closets. Dated February 26, 1884.
- " 3982. A. M. Clark—a communication from C. Tregoning and W. Hodge, both of Lawrence, Dakota, United States, for improvements in combination locks. Dated February 26, 1884.
- " 3984. J. Lewis, of Brockley, Surrey, for improvements in gas and air for illuminating and heating purposes. Dated February 26, 1884.
- " 3998. C. J. Henderson, of Edinburgh, for improvements in the construction and materials of stoves, and of ventilating apparatus connected therewith. Dated February 27, 1884.
- " 4008. J. McIntyre Shaw, of Glasgow, for improvements in fire-grates, the same being applicable to cooking ranges, and other domestic fire-places. Dated February 27, 1884.
- " 4019. G. F. Thompson, of Chester, for improvements in stair-rod fasteners. Dated February 27, 1884.
- " 4020. W. Scantlebury, of Lea Bridge-road, London, for improvements in the arrangement and construction of certain parts of velocipedes. Dated February 27, 1884.
- " 4027. T. Fletcher, of Warrington, Lancashire, for improvements in washing machines. Dated February 27, 1884.
- " 4044. J. Harrington, of Coventry, for improvements in springs for the saddles or seats of bicycles, tricycles, and other velocipedes. Dated February 27, 1884.
- " 4045. C. Lawrence, of Southampton, for improvements in or applicable to the construction of cooking-ranges or kitcheners. Dated February 27, 1884.
- " 4071. A. W. Hirst, of West Croydon, London, for improvements in velocipedes. Dated February 28, 1884.
- " 4076. W. Dawes, of Leeds, for an improved apparatus for flushing water-closets and other similar purposes. Dated February 28, 1884.
- " 4099. F. T. Ball, of South Kensington, London, for improvements in or addition to type writers. Dated February 28, 1884.

- No. 4109. A. M. Clark—a communication from Collin and Co., of Paris, for improvements in mincing machines. Dated February 28, 1884.
- „ 4111. W. T. Sugg, of Westminster, London, for improvements in grates for gas fires. Dated February 28, 1884.
- „ 4126. J. Waller, of Birmingham, for an improvement in stair-eyes for holding stair rods. Dated February 29, 1884.
- „ 4129. C. Heywood and G. H. Wilkes, of West Bromwich, both in Staffordshire, for an improved stair eye. Dated February 29, 1884.
- „ 4140. H. C. Clement, of Peckham Rye, London, for improvements in burning gas from a united holder. Dated February 29, 1884.
- „ 4141. R. B. Sanson, of Globe Road, London, for an improved injector for mixing and gas for heating purposes. Dated February 29, 1884.
- „ 4142. R. B. Sanson, of Globe Road, London, for improvements in heating smooting irons. Dated February 29, 1884.
- „ 4147. J. J. and T. I. Day, both of Leighton Road, Kentish Town, London, for improvements in flushing apparatus for water closets and other like purposes. Dated February 29, 1884.
- „ 4152. A. D. Turner, of Old Ford, and W. Flatau, of Highbury, London, for improvements in lamps for burning oils or other liquids. Dated February 29, 1884.
- „ 4164. H. Tosh, of Glasgow, and S. Preston, of Barrhead, Renfrewshire, for an improved device for opening and closing window sashes and fanlights. Dated February 29, 1884.
- „ 4169. J. Watkins, of Birmingham, for procuring self-acting foot brakes for bicycles and tricycles and other velocipedes. Dated February 29, 1884.
- „ 4193. T. N. N. Harwood, of West End, Northolt, London, for an improved cyclometer for registering distances travelled by velocipedes. Dated March 1, 1884.
- „ 4203. T. G. Dorning, of Manchester, for improvements in the construction of chimney cowls. Dated March 1, 1884.
- „ 4209. C. F. Archer, of Clapham Junction, London, for improved means for securing in place rods, bars or laths for curtains, blinds, and stair carpets. Dated March 1, 1884.
- „ 4213. J. Horwitz, of Cornwall-road, Notting-hill, London, for improvements in key rings. Dated March 1, 1884.
- „ 4218. T. Smith, of Brockley, and J. Drewitt, of Peckham, for improvements in the fastenings for window sashes or frames, &c. Dated March 1, 1884.
- „ 4231. H. N. Crellin, of Parkside, Kew-road, Richmond, for improvements in fittings for water-closet and other doors. Dated March 1, 1884.
- „ 4232. H. Skelton, of Norwich, for improvements in or applicable to the construction of knitting machinery. Dated March 1, 1884.
- „ 4236. A. M. Clark—a communication from P. Popp, of Paris, for improvements in gas-lighting apparatus, Dated March 1, 1884.
- „ 4239. J. C. Bauer, of Brockley, Kent, for improvements in domestic fire-escapes. Dated March 1, 1884.
- „ 4240. A. M. Clark—a communication from P. Popp, of Paris, for improvements in gas lighting apparatus. Dated March 1, 1884.
- „ 4250. W. Norman, of Nottingham, for improvements in ironing, mangling and wringing machines. Dated March 3, 1884.
- No. 4252. H. Devine, of Manchester, and J. Shaw, of Lockwood, near Huddersfield, for an improved steam washing machine. Dated March 3, 1884.
- „ 4257. J. Neale, and T. H. Price, both of Birmingham, for improvements in the nozzles of oil cans, which improvements are applicable to lubricators, vent pegs, and for other like purposes. Dated March 3, 1884.
- „ 4260. J. W. Sankey, of Bilston, Staffordshire, for improvements in the handles of frying-pans and other hollow-ware and culinary utensils. Dated March 3, 1884.
- „ 4277. J. Smith, of Leeds, for improvements in fire grates or stoves. Dated March 3, 1884.
- „ 4278. W. Telfer, of Kinning Park, Renfrewshire, for improvements in cooking ranges. Dated March 3, 1884.
- „ 4281. J. Barnett, of Healey-street, St. Pancras, London, for improvements in fuel for use in domestic and other stoves for the generation of steam and heat, and iron working, with apparatus. Dated March 3, 1884.
- „ 4283. W. Bottell, of Colchester, for improvements in tricycles. Dated March 3, 1884.
- „ 4286. F. J. Candy, of Fen Ditton, Cambridgeshire, for improvements in lavatories and closets. Dated March 3, 1884.
- „ 4305. A. Emanuel, of Marylebone-lane, London, for improvements in water closets. Dated March 4, 1884.
- „ 4310. F. R. Baker, of Birmingham, a new or improved instrument for trimming the wicks of lamps. Dated March 4, 1884.
- „ 4316. J. Browning, of the Strand, London, for improvements in the construction of wheels for velocipedes. Dated March 4, 1884.
- „ 4319. C. Campbell, of Sheffield, for improvements in lamps or lanterns for developing the illuminating power of coal gas. Dated March 4, 1884.
- „ 4329. F. Spencer, of Northfield, Worcestershire, for improvements in relation to the burners of lamps as applied to velocipedes or vehicles now known as cycles. Dated March 4, 1884.
- „ 4331. A. G. Brooks—a communication from W. T. Beardslee, of Boston, United States, for improvements in sewing machinery. Dated March 4, 1884.
- „ 4335. G. Charman, of Chancery-lane, London, for an improved method of and apparatus for adjusting the wick in a lamp. Dated March 4, 1884.
- „ 4336. W. Davis, of Chancery-lane, London, for improvements in brakes for perambulators and other wheeled vehicles, and in the method of applying the same. Dated March 4, 1884.
- „ 4340. V. A. Wraight, of Cowper-road, South Hornsey, London, for a perfect double driving gear for tricycles. Dated March 4, 1884.
- „ 4344. W. T. Cooke, of Praed-street, London, for improvements in velocipedes. Dated March 4, 1884.
- „ 4351. J. Shelton, of Wolverhampton, for improvements in apparatus or machinery for straightening, cutting off, and heading lengths of wire, specially applicable for the manufacture of the metallic spokes of velocipede wheels, and similar wheels. Dated March 4, 1884.
- „ 4354. W. Watson, of Hampstead, London, for an improvement or improvements in sash fasteners. Dated March 4, 1884.
- „ 4357. W. Hassall, of Beeston, Nottinghamshire, for an improved joint for water, gas, and other similar pipes. Dated March 4, 1884.
- „ 4358. W. Hillman, of Coventry, and W. B. Powell, of the Temple, London, for improvements in tricycles. Dated March 4, 1884.



- No. 4381. W. R. Lake—a communication from E. Blay, of Gien, France, for improvements in and relating to apparatus for supporting and heating dishes, plates, or similar articles. Dated March 4, 1884.
- " 4394. W. P. Thompson—a communication from E. H. Barney, of Springfield, Massachusetts, United States, for improvements in roller skates, in part applicable to fastening devices for other skates. Dated March 5, 1884.
- " 4403. T. Welten, of Ladbroke, Grove-road, London, for improvements in deodorizing fecal matter in water-closets, urinals, and similar places. Dated March 5, 1884.
- " 4414. W. M. Simpson, of Hastings, for an improved two speed gear for velocipedes. Dated March 5, 1884.
- " 4418. T. Penn, of Westbury-road, Wandsworth, London, for improvements in means for preventing waste of water in water supply apparatus. Dated March 5, 1884.
- " 4419. T. Williams, Junior, of Myddleton-square, London, for improvements in silent micing machines for cutting and mixing sausage meat and other like substances. Dated March 5, 1884.
- " 4427. G. Sawyer—a communication from the White Sewing Machine Company, of Cleveland, Ohio, United States, for an improved "take up" mechanism for sewing machines. Dated March 5, 1884.
- " 4429. T. W. Gerhard, of Wolverhampton, for improvements in velocipedes. Dated March 6, 1884.
- " 4440. F. Baker, of Southampton, for improved self-locking straight steering gear of tricycles and velocipedes. Dated March 6, 1884.
- " 4444. F. Wood, of Wexford, for improvements in stoves for heating air with or without the evaporation of water therewith. Dated March 6, 1884.
- " 4450. T. H. Heard, of Sheffield, for improvements in the manufacture and construction of table cutlery, pocket cutlery, razors and the like articles. Dated March 6, 1884.
- " 4451. H. and W. Edley, both of Sheffield, for improvements in appliances for shaving. Dated March 6, 1884.
- " 4456. H. Barron, of Cannon-street, London, for an improved kettle. Dated March 6, 1884.
- " 4462. F. W. Bach, of New Bond-street, London, for improvements for doing away with container immediately under the burner of mineral oil lamps, thereby doing away with the shadow caused by the container. Dated March 6, 1884.
- " 4467. A. H. Harington, of Regent's Park, London, for improvements in gas burners for lighting and heating purposes. Dated March 6, 1884.
- " 4471. A. Osborn, of Doris-street, Kennington Cross, London, for the reduction of friction in the bearings of bicycles, tricycles, and articles of similar character. Dated March 6, 1884.
- " 4487. W. Hillman, of Coventry, for improvements in velocipedes. Dated March 6, 1884.
- " 4500. H. Wyatt, of Redhill, Surrey, for an improved safety sash fastener. Dated March 7, 1884.
- " 4504. W. P. Thompson—a communication from S. Montgomery, of New York, United States, for an improved wood screw. Dated March 7, 1884.
- " 4517. F. C. Wright, of Birmingham, for an improvement in the double driving differential gear of velocipedes and in its application to the carrying wheels of such manumotive carriages. Dated March 7, 1884.
- " 4523. H. Wheelwright, of Tredegar Nursery, East Dulwich-road, Peckham-rye, London, for an improved hot-water boiler. Dated March 7, 1884.
- No. 4526. F. W. Jones, of Exeter, for an improved stop bell for velocipedes. Dated March 7, 1884.
- " 4556. T. G. and H. D. Daw, both of Seven Oaks, Kent, for improvements in type writers. Dated January 1, 1884.
- " 4557. E. H. Baxter, of Birmingham, for improved means or appliances for supporting or keeping open perambulators and other hoods. Dated March 7, 1884.
- " 4558. T. Gorton, of Manchester, and S. Verity, of Lower Brighthelm, Lancashire, for improvements in apparatus for melting solder by gas and air. Dated March 7, 1884.
- " 4564. E. Taylor, of Birmingham, for improvements in stair-rod eyes, which improvements are applicable to eyes, brackets, and ring supports for holding and supporting cornice poles, picture rods, curtain rods, and for other like purposes. Dated March 8, 1884.
- " 4570. S. Slater, of Oldham, for improvements in door sill brasses, and in the method of securing the same. Dated March 8, 1884.
- " 4573. J. Brooks, of Sheffield, for improvements in barrel churns. Dated March 8, 1884.
- " 4576. A. W. Chesterman, of Sparkbrook, Worcestershire, for improvements in hinges. Dated March 8, 1884.
- " 4577. J. E. Keirby, of Swinton, near Manchester, for an improved portable and adjustable gas lamp. Dated March 8, 1884.
- " 4583. W. Reynolds, of Oxford-street, London, for a combination travelling hammer. Dated March 8, 1884.
- " 4585. H. S. Jackson, of Finchley, London, for an improved two speed gear for tricycles and other velocipedes. Dated March 8, 1884.
- " 4598. B. Carr, of Walthamstow, Essex, for improvements in driving gear for velocipedes. Dated March 8, 1884.
- " 4602. J. R. C. Taunton, of Birmingham, for improvements in the seats of tricycles, and other velocipedes. Dated March 8, 1884.
- " 4603. W. D. Scott Moncrieff, of Fairholme-road, Fulham, London, for improvements in or applicable to the construction of water closet apparatus. Dated March 8, 1884.
- " 4604. E. Newman, of Birmingham, for an improvement or improvements relating to window fasteners and the like. Dated March 8, 1884.
- " 4605. T. Redmayne, of Southampton Buildings, London, for improvements in gas cooking stoves. Dated March 8, 1884.
- " 4607. S. Guinery, of Epsom, Surrey, for an improved sash pulley. Dated March 8, 1884.
- " 4608. J. B. Sharp, of Odcomb, Ilminster, Somersetshire, for improvements in chandeliers. Dated March 8, 1884.
- " 4620. J. Dawson, of Sheffield, for an improved method of making a carver fork guard. Dated March 10, 1884.
- " 4625. E. Boy, of Chesterton-road, North Kensington, London, for cycling or riding a wheeled machine propelled with the feet. Dated March 10, 1884.
- " 4646. C. J. Poole, of Forest Gate, Essex, for improvements in apparatus for affecting the opening or closing of swing doors. Dated March 10, 1884.
- " 4647. J. M. Taylor, of Seer Green, Bucks, for improvements in steering apparatus for tricycles. Dated March 10, 1884.
- " 4648. A. A. Barratt, of Glenwood, Thames Ditton, for improvements in castors. Dated March 10, 1884.
- " 4649. G. Paine, of Worthing, Sussex, for improvements in apparatus for opening and closing sashes, shutters and doors. Dated March 10, 1884.
- " 4653. H. Thompson, of Marquess-road, Canonbury, London, for

improvements in the construction of domestic stoves and grates. Dated March 10, 1884.

### Letters Patent have been issued for the following.

- No. 3992. H. E. A. Wallis, of Farringdon-street, London, for improvements in gas or lamp shades, and in supports for same. Dated August 17, 1883.
- „ 4092. J. Orme, of Barbican, London, for an improved safety bicycle, parts of which invention are applicable to tricycles generally. Dated August 23, 1883.
- „ 4150. G. Connell, of Newcastle-upon-Tyne, for improvements in window ventilators. Dated August 28, 1883.
- „ 4155. G. Singer, of Coventry, for improvements in tricycles. Dated August 28, 1883.
- „ 4213. S. B. Sutcliffe, of Manchester, for improvements in tile hearths, and in fenders for fire-places. Dated September 1, 1883.
- „ 4326. D. Carter, of Stratford-on-Avon, for improvements in driving gear applicable to velocipedes and other vehicles. Dated September 3, 1883.
- „ 4306. J. Pasfield, of Stafford, for improvements in the treadle mechanism of sewing and other machines. Dated September 7, 1883.
- „ 4316. F. R. Baker, of Birmingham, for an improvement or improvements in lamps. Dated September 8, 1883.
- „ 4318. M. F. Ferry, of West Hartlepool, for a new or improved burner for combustion of liquid hydrocarbons. Dated September 8, 1883.
- „ 4338. C. A. Allison—a communication from C. F. Waldo, of New York, United States, for improvements in velocipedes, parts of which are applicable to other vehicles. Dated September 11, 1883.
- „ 4341. J. Hinks, of Birmingham, for improvements in lamps for burning light or volatile oils. Dated September 11, 1883.
- „ 4342. B. J. B. Mills—a communication from V. Ducruix, of Beaujeu, France, for improvements in domestic heating apparatus. Dated September 11, 1883.
- „ 4450. D. Don, of Falkirk, Stirling, for improvements in cooking ranges or kitcheners. Dated September 18, 1883.
- „ 4537. J. Keith, of Edinburgh, for improvements in hot-water boilers. Dated September 22, 1883.
- „ 4639. M. Dämme, of Mühlhausen, Thüringia, Germany, for improvements in thimbles. Dated September 29, 1883.
- „ 4641. G. G. Mac William, of Bardett's-buildings, London, for an improved construction of water-closet basins. Dated September 29, 1883.
- „ 4675. F. J. Biggs, of Leadenhall-buildings, London, for improvements in latches and locks. Dated October 2, 1883.
- „ 4712. C. Pieper—a communication from R. Gritzner, of Durlach, Germany, for improvements in sewing machines with rotary hook. Dated October 4, 1883.
- „ 4839. E. Sturge, of Queen's-row, Walworth, London, for improved means of generating or producing motive power for facilitating the propulsion of tricycles and other light carriages or constructions, and for driving light machinery generally. Dated October 11, 1883.
- „ 4877. J. C. Baxter, of Reigate, Surrey, for an improved cooking apparatus for military and other purposes. Dated October 13, 1883.
- „ 5199. R. C. Thompson, of Brixton, and W. Spence, of Surbiton, for an improvement in bicycles. Dated November 1, 1883.
- „ 5281. J. S. Stevens and C. J. Major, both of Battersea, London, for improvements in spring hinges for doors. Dated November 8, 1883.

- No. 5394. J. Imray—a communication from S. Y. Love, of Pittsburg, Pennsylvania, United States, for an improvement in sewing machines. Dated November 15, 1883.
- „ 5583. T. Humber, of Beeston, Nottinghamshire, for improvements in tricycles. Dated November 30, 1883.
- „ 564\*. H. Leeming, of Manchester, for improvements in sewing machines. Dated December 5, 1883.
- „ 5613. W. L. Wise—a communication from F. J. A. Freiherr von Palstring, of Kotitz, near Coswig, Saxony, Germany, for improvements in velocipedes or vehicles for use on land, ice, and water. Dated December 3, 1883.
- „ 5789. W. R. Lake—a communication from J. B. Hammond, of New York, United States, for improvements in type writing machines. Dated December 18, 1883.
- „ 5875. R. H. Brandon—a communication from L. J. Driscoll, of Somerville, Massachusetts, United States, for improvements in button attaching sewing machines. Dated December 27, 1888.
- „ 5925. J. S. Stevens and C. Y. Major, both of Battersea, London, for improvements in spring hinges for doors. Dated December 29, 1883.

### SPECIFICATIONS PUBLISHED DURING THE MONTH.

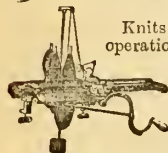
Postage 1d. each extra.

					s. d.
No. 3067.	W. Jackson, construction of tricycles	..	..	0	6
„ 3082.	A. J. Denny, washing machine	..	..	0	8
„ 3098.	J. C. Morrison and R. Smith, oil burners	..	..	0	8
„ 3154.	J. Mc. I. Shaw, cooking ranges	..	..	0	2
„ 3155.	H. J. Lawson, construction of velocipedes and apparatus in connection therewith	..	..	0	2
„ 3162.	W. H. Winter, attaching and fastening handles to tea and coffee pots, &c.	..	..	0	2
„ 3195.	W. Lockwood, manufacture of rollers for wringing and mangling machines	..	..	0	6
„ 3204.	J. Farrimond and J. Whittaker, Ventilating water and other closets	..	..	0	6
„ 3212.	W. E. Diehl, door retention stop	..	..	0	2
„ 3222.	W. Allison, hooks or pegs for hanging or supporting garments, &c.	..	..	0	6
„ 3225.	E. Raitt, water waste preventers	..	..	0	6
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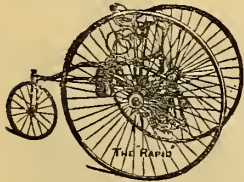
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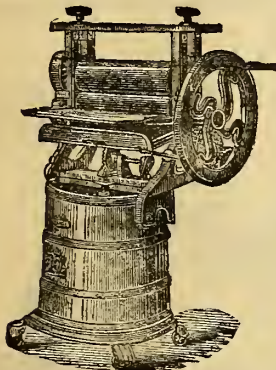


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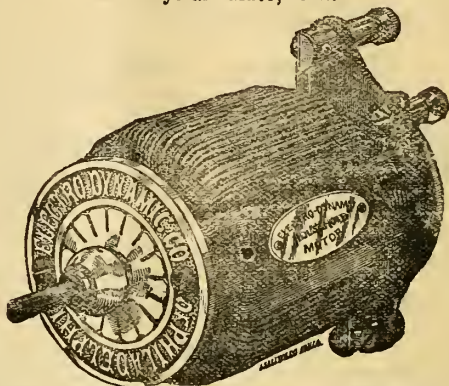
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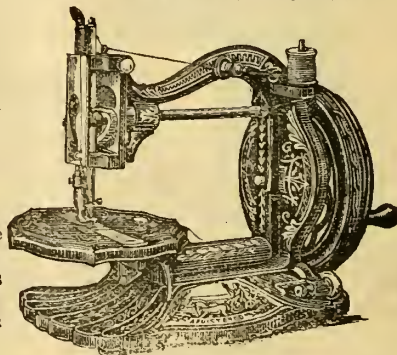
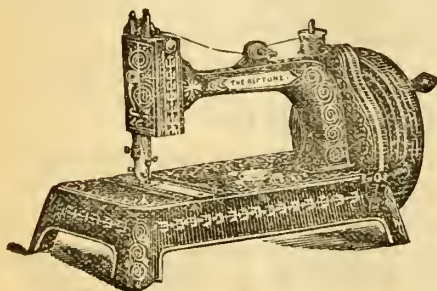
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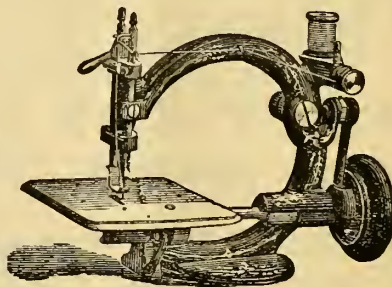
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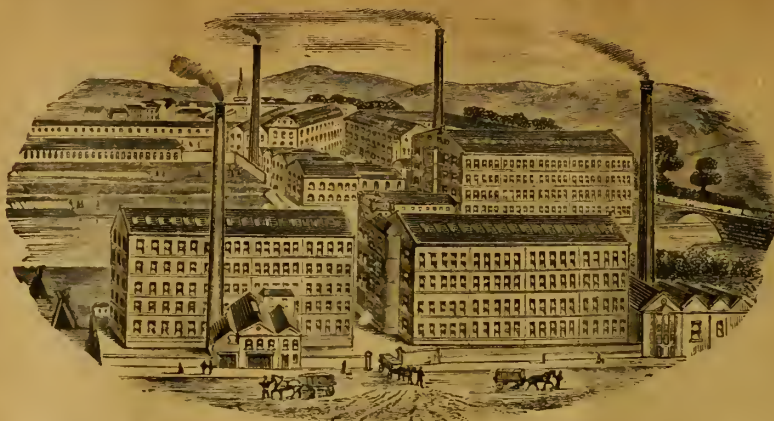
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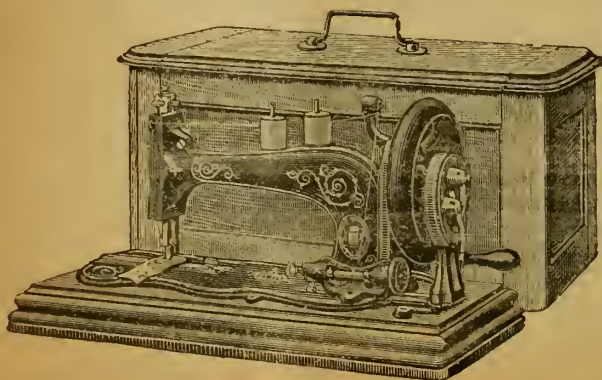
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Address of Witness \_\_\_\_\_

All Change of Residence to be intimated to

The above Agreement is constructed on one originally drawn up by Lord Coleridge, the Lord Chief Justice of the Common Pleas, which was submitted to Sir Hardinge F. Giffard, Her Majesty's Solicitor-General, who is of opinion "that it confers no right in equity any more than at law to the goods in question, and consequently does not require to be registered under the New Bill of Sale Act.

# HIRE AGREEMENT FORMS.

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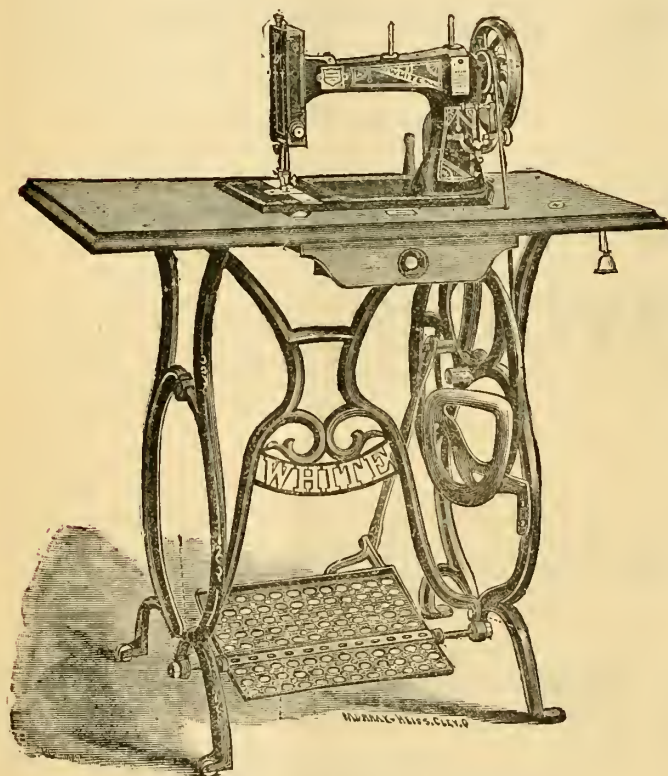
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## THE BEARD OF ABRAHAM WEINKAEFER.

A SKETCH FROM RUSSIA.

(FROM THE GERMAN OF KARL EMIL FRANZOS.)

(Continued.)

THE most horrible, the most significant things that can be told of the want of rights of the Jews in Russia, are contained in those stories which narrate events which happened in times of peace, before the storm of hatred passed over the country, and in which neither corruption nor cupidity, nor any low instinct on the part of officials, play any part. Here alone, all and every consolation is entirely wanting. And amongst these tales none is so well worth narrating as that which is indicated by the heading of this story. Who examines carefully a single drop of water can thereby recognize the nature of a lake. I believe that the most diffuse dissertations about the condition of the Jews in Russia, cannot give a better picture of it than the fate of this one man.

In the South Russian Province of Podolia, on the railway which connects Kiev with the Black Sea, is situated the little town of Winniza. It looks a little better and cleaner than the other mud heaps of the neighbourhood. It has even a printing-office and a public square; but is, according to European notions, nothing but a miserable hole. The inhabitants are Jews, Poles and Russians, the former preponderating largely.

That town is the scene of our story, and little as can be said about it, as little can be said about our hero. He was a Jew, by name Abraham Weinkaefer; by profession, a glazier. He lived quietly and peaceably, was an honest man, a good husband and father, and an industrious worker. He did not attract the attention of his fellow-citizens. He was neither a pattern of goodness nor the reverse, neither poor nor rich, neither wise nor stupid; but he had this advantage over most of his fellow-citizens, he had the finest beard in the place, though it was little appreciated, as things of beauty were not much noticed in that village. It was a gigantic beard, which reached almost down to his waist, and looked most imposing and grand, especially after it had become grey.

This beard was to be a curse to this man.

It is now about twelve years ago, and Abraham was about half-way between 50 and 60 years of age, when one day the Governor-General of Podolia came to Winniza. A new school, in which he was deeply interested, was to be opened, and he must needs be present at the ceremony. This alone speaks well of the man; and, as a matter of fact, nothing but good can be said of him. He was of the most ancient nobility, and had not only received the education of a nobleman, but had really learnt a good deal. He was enthusiastic for everything great and beautiful, he was an amateur of some repute in the fine arts, he painted well in water-colours, and made very nice verses. But he was not only a thorough gentleman, but also a most kind-hearted, benevolent man, and as Governor-General, always eager to do good to his subordinates and to his fellow-men; only he was frightfully forgetful and absent-minded, and the most funny stories were told about him. For instance, he was once at a grand court dinner at St. Petersburg (he was one of the most favourite and privileged friends of the Emperor Alexander II. and the entire Imperial family), when he pushed back his plate, pulled out his pencil, and began to draw upon the snowy table-cloth. He was fully conscious of this failing, and to counterbalance it he chose

an adjutant with an excellent memory. This man was also a good-natured, conscientious man. For this reason their names shall not be mentioned here; they were guiltless of the misery which they caused, as they meant no harm.

All the inhabitants of the little town had assembled in holiday attire in honour of the distinguished guest before the new school, and our hero was also amongst them. He looked most picturesque in his kaftan of black silk and gigantic beard, and would, of course, attract the attention of a painter at once.

And the Governor really remained standing before him when he walked through the ranks of the inhabitants after the ceremony, followed by his adjutant and the Chief of the Police, and looked at him with a benevolent smile and asked him his name and profession.

The simple citizen was so dumbfounded at this unexpected honour that he could only give the answer stammering, and in a most embarrassed manner.

"That is right," said the Governor, tapping him condescendingly on the shoulder. "Master glazier! I like to hear that; handicraft has a golden foundation. But wilt thou tell me" (he said *thou* to the old man because he was only a Jew, but he certainly did not mean any harm) "how didst thou get such a beard?"

At this question poor old Abraham got still more confused. "How have I got such a beard?" he said, "well, it has grown so."

"A splendid beard," said his Excellency, enthusiastically. "An incomparable beard! and the chief point is that it harmonises so well with thy face and thy entire appearance. Thou dost not know, my good Abraham, what a curiosity thou art. Would'st thou mind to sit me as model?"

"Model," said the Jew—"I don't understand."

"I should like to draw thee—only a sketch in pencil. An hour would suffice."

"Draw!" exclaimed Abraham, and raised his hand as if he wanted to ward off such an idea from him. "My gracious Master, what is there to draw in a poor Jew?"

"Thou art as modest as handsome," said the Governor, laughing. But the Chief of the Police knew the meaning of the whining tone of Abraham's voice better. "There is some meaning in his refusal," he said to his superior. "The man does not belong to the strictly orthodox Jews, but fears their rage. They consider it a sin if a Jew allows his portrait to be taken." Turning to Abraham, he said in a gruff voice, "Thou must do what his Excellency commands."

"Not so," forbade the Governor; "the man is not obliged to sit to me, but,"—turning to Abraham—"if I ask thee again to do me this favour, thou wilt perhaps gratify my desire. Only an hour to-morrow morning early, as I leave again at noon."

Of course the Jew did not refuse any longer, and promised to come punctually.

This conversation naturally caused the greatest sensation in the little town. Nothing else was talked of that day. But the fanatics reproached Abraham seriously that he had consented. That any person would yield to the wishes of the Governor-General, was beyond the capacity of these people to understand.

The next day the sitting took place. The Governor conversed during the same with the Jew in the most friendly manner, enquired into all his circumstances, and wished to reward him liberally on taking leave from him.



But the Jew refused to take any money, assuring the Governor that the honour of having been of service to him was quite enough, whereupon the Governor enquired whether he smoked, and, upon replying in the affirmative, the great man presented him with a very valuable amber mouth-piece.

This present, and Abraham's report of his conversation with the Governor, gave occupation and entertainment to the people of Winniza during several weeks. The master glazier could not say enough of the condescension of his great patron, but of the sketch made of himself he did not say much good. He said that, though he knew his own features well enough, he was not able to make them out through this labyrinth of pencil strokes, and if he could not do so, another eye could most assuredly not do so either.

However, in this he grievously wronged the talent of the Governor, for it was a very nice and very characteristic sketch. Of this opinion also was a very great lady belonging to the Court in St. Petersburg, to whom the Governor showed the drawing a few months afterwards. This was the Duchess of L—, an elderly lady, a near relative of the Emperor, and much distinguished by her love for and knowledge of the arts. She was also a painter, and had tried her skill by no means unsuccessfully on historic subjects. "Excellent!" she exclaimed, and her eyes sparkled. "What a splendid, patriarchal head! How splendidly this would do for a model of the Patriarch Abraham in a Bible scene which I have tried to paint for a long time, but have never been able to do for want of a suitable model. Pray leave me the sketch."

"With pleasure, your Highness," said the Governor-General; "but I have no doubt I could get you the man himself."

"Oh!" exclaimed the Duchess, "do you really believe this possible? That would be charming."

"Nothing is impossible when your Highness wishes it," replied the Governor-General, in the most polite manner; "but it will not be so very difficult, after all. The man will most certainly be delighted to oblige us, if we ask him kindly, and pay him well for it. He lives in Winniza. His name really I do not remember, but my aide-de-camp must surely know it. I will give him my orders to-day, and he will carry them out quickly and well. In a week's time you will have your model here."

The aide-de-camp knew the name quite well, and all the details of the interviews—even that Abraham had hesitated a moment before consenting to sit, for fear of the fanaticism of his co-religionists. But even without this circumstance he would not have thought of any other way to get him here than through the Government officers. It was the only practical one. And so he telegraphed, in the name of his chief, to the head of the Government in Keminnatz-Podolsk that the Jew, Abraham Weinkaefer, was to be sent immediately to St. Petersburg, where on arrival he should report himself to the Governor, who would bear all expenses of the journey. A reliable man should accompany the Jew throughout.

The telegram reached the hands of the Vice-Governor of the Province, and that official might have been astonished at the order, if he had not been so busy at the time. As it was, he gave the order, short and curtly, to one of his councillors to despatch the Jew to St. Petersburg, attended by a guard, and by the shortest route. And this councillor had just then very little time either, and passed the

order on to his secretary, only with this little variation, that he used already the word "arrest."

"What crime may this glazier from Winniza have committed, that he must be sent direct to St. Petersburg;" asked the young secretary, curiously.

"Don't know," replied the councillor, "but clearly a political crime of some sort."

This appeared to the secretary quite clear also, and it must have been a serious crime too, or else such great haste would not have been enjoined. And so he wrote to the Chief of the Police in Winniza that the glazier Abraham Weinkaefer, was accused of a great political crime, and was to be arrested and to be sent to St. Petersburg, well guarded, and in the usual manner prescribed for prisoners, only that the greatest possible despatch was necessary.

The Chief of the Police read the order with the greatest astonishment. Whatever there may have been behind this fine beard, political offences were assuredly not amongst them. He also came to the conclusion that there must be a mistake; but what could he do? The order was clear enough, and had to be obeyed. He sent for the Jew, who came in some excitement, for what could the police require of him, who had never been troubled with the police during his whole life? Paralysed with horror and astonishment, he heard the order, and could not utter a word for a long time. At last he threw himself on his knees, and exclaimed—

"Have pity on me, sir! It cannot be true. What have I to do with politics? If your honour had not explained to me the word, I should not know what it meant."

The officer was sufficient judge of human nature to know that the ring of the poor man's voice was genuine. Moved to pity for the unhappy Jew, he resolved to do the only thing that was in his power. He telegraphed back to the Government whether this order was not based on a confusion of names. In the meanwhile he had of course to keep Abraham locked up as a prisoner; his wife and children were allowed to visit him, and after the first fright and impression of the blow was got over, she, like him, began to hope that this was only a cruel mistake, which would be cleared up at once. And the inhabitants of Winniza were all agreed and convinced that their honest and peaceful fellow citizen, who never in his life had bothered his head about what was going on beyond their little town, but merely about the clearness and evenness of his window panes, could not possibly be a dangerous conspirator.

Only three days afterwards came the reply from headquarters, in a letter signed by the young secretary. It contained a sharp reprimand for the Chief of the Police, for having stopped the course of justice by his superfluous questions; there was no mistake whatever about the order.

The unfortunate man fell down fainting when the official told him what the reply was he had received. Upon recovering his senses, he tried to console his wife. But she also had gained the courage of despair. She went about amongst the Christian heads of society, officers, officials, merchants, &c., and implored their assistance. But they shrugged their shoulders and refused, one and all, alleging that it was dangerous to meddle with political affairs. The only thing they might have ventured upon was a direct enquiry to the Governor-General. For a Christian citizen they might have done such a thing, but for a Jew, No, what was he to them?

Next morning Abraham, heavily ironed, was carried on a little waggon to the railway station. Opposite him sat two soldiers with loaded muskets; his wife and his children ran howling and crying beside the waggon, and many of the community, too, followed out of curiosity or from compassion. The unfortunate man kept his fortitude; his tears continually rolled down his pale cheeks, but he went on to cheer and console his wife and children. "Trust the Almighty as I trust Him," he called out to them; "He will not allow an innocent man to perish. My heart tells me that I shall see you again soon, happy and joyful."

He was wrong—his heart deceived him. He never saw his family again.

(To be Continued.)

### IMPORTS OF SEWING MACHINES INTO GERMANY.

In spite of the greatly increased make of German sewing machines, the shipments from the United States to Hamburg and German ports generally continue to be very large—much larger than to Great Britain. Certainly the sewing machine is appreciated in Germany.

### NOTES.

C. W. P., of Old Ford, London, has attached a fret-saw to an ordinary sewing machine stand. Some years ago we called attention to a similar application, but C. W. P. has succeeded most effectively and also simply in adapting the present ordinary stand to sawing, without any material alteration. By this method a direct perpendicular stroke is obtained in place of the segment of a circle performed by most of the treadle machines in use, and any stand with a treadle will do a great amount of work of a light character in a short time.

A NEW PUBLICATION has appeared entitled *Outing and the Wheelman*. It is illustrated in the highest style of American wood engraving, and the general subjects include the field of travel for pleasure or health, the cycle occupying the leading place. It is published monthly, at a shilling.

DR. H. L. CORTIS has published a book on the Principles of Training for Amateur Athletes, with especial regard to bicyclists.

THE MOTOR SEWING MACHINE COMPANY will open a new establishment in Regent Street, in May.

A PHOTOGRAPH of the new factory and buildings of the Singer Machine Company, near Glasgow, has just been taken, and is exhibited at their offices in London.

### LIST OF AMERICAN SEWING MACHINE COMPANIES.

FROM THE *Sewing Machine Advance*.

| NAME OF COMPANY.                        | MACHINE.                         | FACTORY.                       | PRINCIPAL OFFICE.   |
|-----------------------------------------|----------------------------------|--------------------------------|---------------------|
| American Sewing Machine Co. . . .       | American . . . . .               | Philadelphia, Pa. . . . .      | Philadelphia, Pa.   |
| Avery Machine Co. . . . .               | Avery . . . . .                  |                                | New York City, N.Y. |
| Brattleboro Sewing Machine Co. . . .    | Estey . . . . .                  | Brattleboro, Vt. . . . .       | Brattleboro, Vt.    |
| Boston Sewing Machine & Cabinet Co. . . | Boston . . . . .                 | Boston, Mass. . . . .          | Boston, Mass.       |
| Chicago Sewing Machine Co. . . . .      | Singer . . . . .                 | Chicago, Ill. . . . .          | Chicago, Ill.       |
| Domestic Sewing Machine Co. . . . .     | Domestic . . . . .               | Newark, N. J. . . . .          | New York City, N.Y. |
| Davis Sewing Machine Co. . . . .        | Davis . . . . .                  | Watertown, N.Y. . . . .        | Watertown, N.Y.     |
| Diamond Sewing Machine Co. . . . .      | Diamond . . . . .                | Arlington, H'ts., Ill. . . . . | Chicago, Ill.       |
| Dauntless Manufacturing Co. . . . .     | Queen . . . . .                  | Norwalk, Ohio . . . . .        | Norwalk, Ohio.      |
| Eldredge Sewing Machine Co. . . . .     | Eldredge . . . . .               | Chicopee, Mass. . . . .        | Chicago, Ill.       |
| Excelsior Sewing Machine Co. . . . .    | Excelsior . . . . .              | Grand Crossing, Ill. . . . .   | Chicago, Ill.       |
| Elastic Motion Sewing Machine Co. . . . | Elastic Motion . . . . .         | Brooklyn, N.Y. . . . .         | New York City, N.Y. |
| Fairbanks Sewing Machine Co. . . . .    | Fairbanks . . . . .              | Springfield, Ill. . . . .      | Springfield, Ill.   |
| Florence Machine Co. . . . .            | Crown . . . . .                  | Florence, Mass. . . . .        | Florence, Mass.     |
| Highy Sewing Machine Co. . . . .        | Highy . . . . .                  | Brattleboro, Vt. . . . .       | Brattleboro, Vt.    |
| Howe Machine Co. . . . .                | Howe . . . . .                   | Bridgeport, Conn. . . . .      | Bridgeport, Conn.   |
| Household Sewing Machine Co. . . . .    | Household . . . . .              | Providence, R.I. . . . .       | Providence, R.I.    |
| June Manufacturing Co. . . . .          | Jennie June and Singer . . . . . | Chicago, Ill. . . . .          | Chicago, Ill.       |
| Kruse Manufacturing Co. . . . .         | Wilcox & Gibbs . . . . .         | New York, N.Y. . . . .         | New York City, N.Y. |
| Leslie Sewing Machine Co. . . . .       | Leslie . . . . .                 | Cleveland, Ohio . . . . .      | Cleveland, Ohio.    |
| Leader Sewing Machine Co. . . . .       | Leader . . . . .                 | Cleveland, Ohio . . . . .      | Cleveland, Ohio.    |
| Love Manufacturing Co. . . . .          | Love . . . . .                   | Rochester, Pa. . . . .         | Pittsburg, Pa.      |
| Lever Motion Sewing Machine Co. . . . . | Wilcox & Gibbs . . . . .         | New York, N.Y. . . . .         | New York City, N.Y. |
| Melone Sewing Machine Co. . . . .       | Melone . . . . .                 | Chillicothe, Ohio . . . . .    | Chillicothe, Ohio.  |
| New Home Sewing Machine Co. . . . .     | New Home . . . . .               | Orange, Mass. . . . .          | New York City, N.Y. |
| New York Sewing Machine & Mfg. Co. . .  | New York . . . . .               | Plattsburg, N.Y. . . . .       | Plattsburg, N.Y.    |
| Noble Sewing Machine Co. . . . .        | Noble . . . . .                  | Erie, Pa. . . . .              | Erie, Pa.           |
| Remington Sewing Machine Agency . . .   | Remington . . . . .              | Ilion, N.Y. . . . .            | Ilion, N.Y.         |
| Rotary Shuttle Sewing Machine Co. . . . | Rotary Shuttle . . . . .         | Foxboro, Mass. . . . .         | Foxboro' Mass.      |
| Singer Manufacturing Co. . . . .        | Singer . . . . .                 | Elizabethport, N.J. . . . .    | New York City, N.Y. |
| St. John Sewing Machine Co. . . . .     | Royal St. John . . . . .         | Springfield, Ohio . . . . .    | Springfield, Ohio.  |
| Thurston Manufacturing Co. . . . .      | Companion . . . . .              | New Britain, Conn. . . . .     | New Britain, Conn.  |
| Tibbles Sewing Machine Co. . . . .      | Tibbles . . . . .                | Chicago, Ill. . . . .          | Burlington, Iowa.   |
| Union Sewing Machine Co. . . . .        | Union . . . . .                  | Toledo, Ohio . . . . .         | Toledo, Ohio.       |
| White Sewing Machine Co. . . . .        | White . . . . .                  | Cleveland, Ohio . . . . .      | Cleveland, Ohio.    |
| Wilson Sewing Machine Co. . . . .       | Wilson . . . . .                 | Wallingford, Conn. . . . .     | Wallingford, Conn.  |
| Weed Sewing Machine Co. . . . .         | Hartford . . . . .               | Hartford, Conn. . . . .        | Hartford, Conn.     |
| Whitehill Manufacturing Co. . . . .     | Whitehill . . . . .              | Milwaukee, Wis. . . . .        | Milwaukee, Wis.     |
| Williams Manufacturing Co. . . . .      | Helpmate and Singer . . . . .    | Plattsburg, N.Y. . . . .       | Plattsburg, N.Y.    |
| Wheeler & Wilson Manufacturing Co. . .  | Wheeler & Wilson . . . . .       | Bridgeport, Conn. . . . .      | Bridgeport, Conn.   |
| Wilcox & Gibbs Sewing Machine Co. . .   | Wilcox & Gibbs . . . . .         | Providence, R.I. . . . .       | New York City, N.Y. |



### BRITISH SEWING MACHINES.

Messrs. BRADBURY & Co., of Oldham, as stated on their circulars, are the largest and oldest European makers of sewing machines, and in the course of the last thirty-two years have obtained many medals and cups. We find them now exhibiting in their window in the city, 72 medals and 4 cups, as awards for their "Belgravia," a lock-stitch machine, which is made for all varieties of work. As is well known, this firm established the first sewing machine manufactory in Great Britain in a small cottage in Oldham, but their works now consist of four blocks of buildings four stories high, which form a square, and are known as "Wellington Works." In the year 1852, their sole production was the Lancashire machine, the price of which was £30. Their prices now range from £2 2s. upwards, and it is due to this firm to say that they have shown great energy in conducting their business. We referred to their manufactures ten years ago, but their most recent triumph is the Rotary Shuttle Machine, which is considered by many persons to be the quickest and most durable lock-stitch machine extant, numbering over 2,000 stitches per minute, and thereby justifying the remark that amongst the many labour-saving inventions which the last quarter of a century has brought into general use, there is not one we would be more reluctant to part with than the sewing machine. But to our observation, one great feature in the business of Messrs. Bradbury & Co. has been that they have paid special attention to exterior appearance as well as mechanical excellence. In this respect we have always been proud of them as English makers.

### MEDALS, &c., AWARDED AT THE INDIAN EXHIBITION FOR SEWING MACHINES.

*From Indian Daily News, February 26, 1884.*

- One Certificate and Gold Medal. Lock-stitch sewing machine. The Wheeler and Wilson Manufacturing Company.
- Three Certificates. Lock-stitch sewing machine. Grimme, Natalis & Co.
- Two Certificates and Bronze Medal. Lock-stitch sewing machine. Koonij & Co.
- One Certificate and Silver Medal. Chain-stitch sewing machine. Wilcox & Gibbs.
- Two Certificates and Bronze Medal. Lock-stitch sewing machine. Adam Opel.
- Three Certificates and Bronze Medal. Lock-stitch sewing machine. The Domestic Sewing Machine Company.
- Two Certificates and Bronze Medal. Lock-stitch sewing machine. H. Vigneron.
- Three Certificates and Bronze Medal. Lock-stitch sewing machine. Britannia Company.
- Two Certificates and Bronze Medal. Original Singer's sewing machine. Singer Manufacturing Company.
- One Certificate and Silver Medal. Singer's improved machine. Singer Manufacturing Company.
- Two Certificates and Bronze Medal. Kilting machine. Singer Manufacturing Company.

IN connection with the subject of "Furniture Revivers," the following recipe for cleaning and reviving furniture, recommended by M. Boschan, may be of service:—Take as much petroleum oil as may be required, let it be heated, and dissolve in it an equal quantity of ozokerite. As soon as the mixture has become cold, it can be applied to the furniture. After the petroleum has dried into the wood, say about 24 hours after its application, the surface should be well rubbed with a dry flannel. The gloss and brightness resulting are said to give to the furniture an appearance as if it had been newly polished.

### Correspondence.

*To the Editor of the "Sewing Machine Gazette."*

1 and 2, Chiswell Street, London, E.C.,

April 17th, 1884.

DEAR SIR,—I was much disappointed on reading your first copy under the new proprietorship and, as I presume, new editorship, to find several very glaring inconsistencies, and I trust you will take my criticism in the spirit of a good-wisher rather than that of an unnecessary carper. From my knowledge of trade literature, I take it that a journal written for and to be read by specialists of a certain trade composed not only of manufacturers but also of dealers and exporters, must be, of all things, true to its functions, that is, of placing current events, reliable trade news and statistics, whether home, foreign, or colonial, unbiassed by political or local prejudice, before its readers. This being my view, I will, with all due deference, draw your attention to the article on page 13, under the heading of "The Sewing Machine." Your writer or correspondent has managed in this to expose to the trade how utterly ignorant he is of his subject. In the second paragraph, speaking of German made machines, he makes the extraordinary statement that "German manufactured machines are not so well finished as the American." In answer, I have but to draw his notice to the late awards at the Amsterdam Exhibition (four gold medals for superior workmanship), and if not then satisfied, let him enquire of any experienced dealer or expert.

In paragraph three, we have the following statement—that the "British manufacturer's position is a difficult and disheartening one, because of the wages exacted by the workmen being very much higher than those of any other country." In reply to this I have only to refer him to page seven in the Journal to find an account of an American company opening a new factory, in which will be employed about 3,500 hands. Who's the best judge, your correspondent or the Singer Manufacturing Company?

He answers paragraph four in paragraph five, as to its being useless to run his head against a stone wall, public opinion, and I may add common sense, being against him; in this I quite agree, although much may depend on the thickness of the assaulting head. So much for this article; but please do, Mr. Editor, see that technical subjects are written by qualified writers.

Respecting the sketch on page 14, and the article of purely local interest on page 17, occupying together nearly seven columns out of twenty-five in the whole journal, I presume it is unnecessary to ask what interest they specially have for dealers or others in sewing machines. But why is this? If a Journal of Domestic Appliances is necessary, let it adopt the shoemaker's adage, and "Stick to its last."

Again, your contributor's knowledge of motors, as given on page 19, must have made many of your readers shrug their shoulders, with an exclamation of "bosh." Has he never heard of Watkin's motor, just launched by a company, and which can be seen at work in at least two of the stores in Queen Victoria Street? And then to his jauntily assumed medical knowledge—"The constant working of the feet on the treadle undoubtedly affects the spine, and may lead to paralysis" how about tricycles and other treadle machines?

Then again, on page 20, a repetition of the bogey, free trade and competition.

Now, Mr. Editor, I am deeply anxious to see a thorough good medium established, knowing its great value to both manufacturers and dealers, and I can see no reason why the English Journal should be inferior to the American "Sewing Machine News," or the Continental "La Machine à Coudre"; but speaking plain, I can assure you that a success can only be made by the use of such information as to make the monthly issue a necessity for all parties; and this can only be done by such a judicious admixture of news as to make it a welcome and looked-for arrival at each date of issue.

Dealers want the best value for their money, and will buy German and American productions in preference to British, so long as they suit their customers and give them better value, and it is for you to point out the best and most recent advances, fearless of nationality or prejudice. Gruntings about Free Trade and advocacy of Protection is out of place in what should be a cosmopolitan publication. It is your duty to deal with facts, and you may rest assured your readers will be fully able to interpret them.

Wishing you in the future all success,

Yours respectfully,  
ALFRED CHILD.

We willingly publish Mr. Child's criticism of ourselves, because we are very anxious to satisfy our readers and especially the Sewing Machine trade, and are glad to be found fault with, for all errors of commission and omission. But in this case, we have an answer to all the accusations of Mr. Child.

Mr. Child is perhaps aware that our Journal does not deal *exclusively* with sewing machines, and treats of all kinds of domestic machinery and everything which interests the British householder. A paper that fills its columns exclusively with sewing machine matter, must, and will admit twaddle and personalities the like of which we frequently see in other papers, and which, to our mind, are exceedingly tedious, nay offensive, and we feel certain that it is the same to the public at large. We shall do our best to procure the most valuable and reliable information about sewing machines, and of the latest improvements in their manufacture. We shall admit *everything* which can be of the slightest interest to the trade, without regard to nationality or politics. The latter especially we shall strictly eschew, but the fact remains not the less patent that England is open to the goods of all countries, and is exposed to a more fierce and severe competition than any other country. It behoves, therefore, our manufacturers to be correctly informed about everything that is going on in all parts of the globe.

The fact that Messrs. Singer & Co. are building an immense factory in Scotland is no answer to our statement that English manufacturers are heavily handicapped as against the manufacturers of other countries. If Singer's do a large trade in their American machines in this country, they do well to build a factory here to be able to supply their customers quicker than by importing their machines from America, especially as their American factories are fully occupied and have no surplus stock to send over. They probably will, by the bye, establish factories in other countries as well. The freight and packing saved will compensate for any other disadvantage—probably it will leave a good surplus.

But is not our assertion quite true as regards German makers? They pay very much smaller wages than English manufacturers. Their steel and iron is as good and as cheap as that made here, and we assert again that they are dangerous rivals, whose competition will and must be felt soon. There are numerous and enormous factories of sewing machines in Germany, and before many years are over few foreign sewing machines will be sold in that country. Again we say that, secure of the Home market, and always able to get a fair profit on what they sell in their own country, they can afford to sell their surplus stock very cheap for exportation. In the issue complained of by our correspondent, there is a description of a new sewing machine factory, the like of which does not exist in this country, even when the much-vaunted factory of Messrs. Singer and Co. is finished and in working order.

Instead of the rapid short paragraphs and funny small-talk admitted in almost all Trade Journals, for the purpose of affording some amusement to their readers and making it more readable, we shall include in every number some short tale of merit, either in original English or a translation of some meritorious communication from abroad. By so doing we think we shall please our readers, but we shall not leave a moment out of our sight the purpose for which this Journal

has been established, and we think it will compare *favourably* with any of the rivals named by our correspondent.

Mr. Child's contradiction of our assertion that a continuous treadle power—as exercised in the working of sewing machines—is injurious to the human frame is not correct. We don't care to fill our space with medical certificates or letters from doctors, but anyone can ascertain this for himself by asking his own medical man. The evil exists, although a remedy has not yet been found. This may, however, turn up any day. It would undoubtedly be a great boon to workers of sewing machines. Mr. Child must know that bicycle-men do not work the whole day with their feet as seamstresses do, nor are men as liable to injuries from over-wrought nervous power as women are.

We know Watkins' Motor quite well, but without saying anything against the contrivance, we await the results of experience. When the Motor is still in favour after two years' trial, and when Mr. Whiteley has renewed his order for 5,000 machines, it will be time enough to say that the same is all that is claimed for it by the patentees.

We now come to the last and most important matter contained in Mr. Child's letter, which is, that we are alleged to have said that the Germans don't make machines as well finished as the Americans. Now, if this is believed to mean that the Germans *can't* make machines as well finished as any other country, we must strongly protest against this interpretation. No one knows better than the writer that the Germans can finish machines as well as anybody else, witness the demand for their tools and machinery in foreign countries, say Italy, for instance, where German machines have almost entirely superseded all others. But the Germans have laid out themselves to make sewing machines chiefly for seamstresses and manufacturers, where cheapness is the first consideration, and, of course, great elegance of make and finish is mere surplusage. The difference between a household machine and one for a factory purpose must be patent to everyone. Our neighbours prefer at present to supply mostly the latter, but we don't doubt that when they want to produce machines for family use they will be able to produce a machine as well finished as the best Americans.

*To the Editor of "The Sewing Machine Gazette,"*

DEAR SIR,—Understanding as I do that your paper is to be an independent trade paper, "open to all, closed to none," I should like to reply to your remarks on the Sewing Machine trade in England on page 13 of your No. 1; and as you express a hope to do some good to British manufacturers, you cannot do better than to admit occasionally, *the other side of the question*.

Trade generally is bad, but why? There has been for some time past a general craving for cheapness, which I believe is caused to a very large extent by the badness of trade. Ladies do not spend for similar articles, half, nor even a third of the amount they did ten years ago. I think I should have no difficulty in showing how, in nearly every trade, the returns, in consequence of the unnatural craving for cheapness, are not a half, nor even a third of what they used to be;—the result as to profits is obvious!

English manufacturers in some trades have been weak enough to give way to this craving for cheapness to such an extent, that in order to meet the reduction in prices, they were compelled to economise in the making, until at last their goods were of a quality which nobody cared to buy—hence to a great extent the reason why American and German manufacturers have gained possession of markets which formerly used only to be supplied by English manufacturers.

The truth may not sound agreeable, but it is truth nevertheless.

After this general introduction, I should now like to give you my experience of the English Sewing Machine trade.

When first I came to England, I supplied so-called English manufacturers with German Sewing Machines, which I had to supply without any outward sign of origin, in order that their machines could be



offered with an English trade mark attached, as English-made goods; but the "beating down" and "screwing down" in price became such, that it was impossible to submit to it, and at the same time maintain a good article.

Determined as I was not to follow this foolish and suicidal mania for cheapness, I induced one of the largest manufacturers in Germany, Frister & Rossmann, to confide to me the sole sale of their machines for England and the Colonies, and I insisted on their trade mark being attached to every one of their machines. Of course the English "manufacturers" who had bought these goods discontinued doing so, partly because they could no longer sell our machines as their own make, partly, also, because we would not give way to this positive madness for cheapness. To say that the German manufacturers have spoiled the prices is a positive untruth. My manufacturers have calculated the very lowest price at which they can sell a really good machine; I have maintained that price, and never allowed myself to be tempted by what I know to be the suicidal policy of my English competitors, whom I defy to show that they ever made as good a price as I did, and still do so to this present day.

So much for the question of this altogether misunderstood "German cheapness." Of course, in the long run, we are the cheapest. The dealers who have once sold our machines again and again come to us, for they know they get a reliable article, which, wherever it goes, will stand as a good advertisement for the high reputation of their shops. They know that any manufacturer who offers them a sovereign for 18s. must needs mix brass with their gold, and thus get them (the dealers) in bad repute. I don't wish to become personal, or I should have no difficulty in pointing to a number of English makers, who, having followed this mania for cheapness had, in consequence, to economise in the making of their good to such an extent that at last no one would sell their machines even at half price, because of the certainty of getting thereby a bad name. Let English manufacturers open their eyes and acknowledge that the real cause of bad trade lies to a great extent with themselves. Let them, instead of cutting each other's throats with ridiculously low prices, out of which they can never expect anything but a bad reputation, which no sensible dealer in England will care to have; let them, I say, put their heads together and maintain such a fair price that they can offer a good article to the English public, through the English dealer.

However much the mania for cheapness may have taken root in articles of dress of every description, it will never answer with a sewing machine. A lady buys some trimming at one-third of what she used to pay, and in the course of a few months, or weeks, the said trimming is thrown away. Not so a sewing machine, which goes into a house and is expected to remain there for almost a life-time, as a monument of good workmanship and consequent recommendation of the dealer who supplied it; or, if of questionable quality, as a warning to all friends against the dealer who, tempted by apparent cheapness, was unwise enough to sell it.

Let English manufacturers understand and meet the question fairly, and the result will soon speak for itself. This absurd hue and cry against "German cheapness" is childish, because it is untrue. Let any English maker show that he commands, or ever did command, better prices, or even as good as those I have and still am determined to maintain, and which are so essential to enable my manufacturers to also keep up that quality, finish, and appearance, which, to every sensible retail dealer, jealous of his own good reputation, are a *sine qua non*. There are black sheep in every country, and I know full well that some German dealers, taking a leaf out of the book of their English friends are selling machines, as bad in quality as some English machines, at equally low prices; but then they are well known to be dealers and not manufacturers.

A respectable German manufacturer, such as I have the honour to represent, will never stoop to economise in the make in order to meet the suicidal policy of his English competitors; and the result we have obtained is the best proof that our principle of a fair price and

good quality is the best, for, although my manufacturers have worked for many years day and night, they are unable to make the supply equal the demand. Dealers by this time thoroughly understand that to buy from a responsible manufacturer who has a reputation to lose is, after all, the cheapest in the end.

I am privileged to refer to some of the best houses in England who, having bought through me these well-known Frister and Rossmann sewing machines, on the Singer and Wheeler-Wilson improved system will be glad to certify that out of thousands of our machines which have passed through their hands during the last ten years, they have no complaint to make. Let English makers face the question on the right basis of quality and finish instead of mere talk of German cheapness, and the drawback of English free trade; and the result in their favour will not be long in showing itself.

One word more, you say that the English makers together produce only 2,000 a "week." It is difficult to reconcile this statement with the daily advertisement of the Singer Company, claiming for themselves alone, a sale of 2,000 a day.

Again, before you speak of German competition in the way you do, you should finally not forget that when these last named would-be monopolists of the sewing machine trade in England had, by means of their "supposed might," subdued the united association of English sewing machine manufacturers and dealers, it was the unfortunate privilege of my German manufacturers and myself to meet and thoroughly beat the common enemy of the English trade. Verbatim judgments obtained by me, both in the Court of Appeal, and the House of Lords, against the Singer Company can be had on application to

Your obedient servant,

HERMANN LOOG,

Sole agent for England and the Colonies for Frister & Rossmann.

127 and 128, London Wall, London, April 28, 1884.

To the Editor of the "Sewing Machine Gazette."

April 25th, 1884.

DEAR SIR,—I beg to draw your attention to a great mistake which has occurred in your last issue under the head of "The Sewing Machine."

You mention that the German sewing machines are cheaper than those of the Americans, *though not so well finished*.

You are quite right in stating that the German sewing machines are cheaper; but at the same time, I think, it is an indisputable fact that they are also much superior in finish, not only superior to the American, but also to any other machines in existence, and that for this reason the German machines are generally preferred for family purposes. I think that any sewing machine dealer cannot but admit that the German sewing machines have not as yet been excelled or equalled by any other make as regards the finish, woodwork, &c.

I am, dear sir,

Yours respectfully,

C. LOHMANN,

Agent for Hengstenberg and Co., Bielefeld; Baer and Rempel, Bielefeld; Baach and Klie, Brunswick.

43, London Wall, London, E.C.

From the NEW YORK SEWING MACHINE NEWS.

The thinking community of the trade has noticed with considerable attention your late articles on the vast difference existing now as against the method of doing business some years ago. The instalment system of selling, wholesale cutting of prices, base and worthless imitations, were then comparatively unknown. Now these very attributes reign supreme, permeate the whole business of the Eastern Hemisphere, and demoralize the trade to such an extent that nothing but sheer pluck, the predominant part of which must be hard work, and possession of abundant capital, alone can make business profitable. The influx of the comparatively

new companies as competitors in the European markets has been felt to such an extent that a few years have only been necessary to produce almost a revolution both in the wholesale and retail prices, discounts and credit; much, it must be regretted to say, is to the detriment of the manufacturers.

The Singer Company as usual was the first to recognise the impending change, and vigorously set to work to counteract the results. In every town, large or small, and even in villages, branch stores were opened, prices were reduced, commissions to canvassers enlarged, and the monthly, or more correctly, the weekly system of payments was reduced to a minimum, it being an undisputed fact that a contract or hire agreement for a payment of sixpence a week was accepted in preference to losing the sale of a machine. The independent dealers as a rule, not having sufficient capital to compete with this extended system of payments, demand, and alas, too often obtain very large discounts and monstrously extended credit. Now for the effect on the older companies. The Singer, although augmenting their yearly sales to a large extent, is surmised to be in the same position as a man with far too large a house to live in for his actual needs. The other large companies have had to recede from their conservative policy and the opening of branches in the provincial towns, from each of which radiates an army of systematic canvassers, is now the rule, formerly the exception.

But perhaps the manufacturers most affected are the English companies. It may be well known in America (if it is not it should be) that all sewing machines of English make with one exception are imitations of American inventions, and the majority a copy of the Singer principle; in some cases it must be frankly admitted an improvement on the original. But these highly finished and good looking machines are not inexpensive to manufacture. The English people also require a highly polished wood-work, a gaudily decorated head and stand, involving use of considerable quantities of gold leaf, paint, japan and varnish. The rapid decline of retail prices together with the advance in rates of discounts and terms of credit, give our English cousins a mighty hard nut to crack, which having done with a good grace they are rewarded with only a very wee kernel.

The present state of trade in England may be briefly summarized as follows:—The Wheeler & Wilson Manufacturing Company have a brisk business in manufacturing machines, some large orders being taken for the new No. 10, which is received here with favour. The Willcox & Gibbs Co. are somewhat reducing the working staff of employees—not an indication of increased business. My call at the Howe Company was an unfortunate one. The directors were holding an annual or semi-annual meeting. Voices pitched high in angry altercation so completely drowned my modest request for a little information, that I was fain to beat a hasty retreat, accomplishing nothing. The several English companies, Jones & Co., Bradbury & Co., and others report the family trade dull, but steady demand for manufacturing machines. The White Company are increasing their trade rapidly, both here and abroad, and are about seeking additional large premises. The "Standard," known in America as the "New Home," are also increasing business, and the "Domestic" quite holding its own. The New American, having its sole agency for Great Britain at Leicester, precludes personal information, and I am always sceptical of written numbers of sales. The Eldredge machine is of too recent introduction here to speak of accurately. The last-named companies represent the so-called high-arm style of machines which undoubtedly is taking preference over all others, and do business directly with independent dealers having no retail branches anywhere out of London, and the White Company only there. This company has its own premises in Queen Victoria-street, and do all business direct. The "Standard" is represented by Messrs. Rennie, Kemsley & Co., the "Domestic" by Messrs. Gordon & Gotch, and the "Eldredge" by Messrs. Murdoch & Co. A numerous band of commercial travellers are employed, the most successful being those who are Americans, or who have travelled in America, and the same may be said of the best dealers. There are many to my personal know-

ledge who gained experience by long residence in America, and throw such energy into the business here that they are easily recognized as the most successful in the trade. AMERICUS.

### OUR NEW YORK LETTER.

To the Editor of the "*Journal of Domestic Appliances and Sewing Machine Gazette.*"

New York City, U.S.A.

April 21st, 1884.

DEAR SIR,—It was with great pleasure that I received your issue of April, and previously read your commendable article in the issue of March 1 upon the "White in Europe," which has been republished with generous *éclat*, in the *United States Sewing Machine Times*, I am very glad to see such a growing spirit of reciprocity growing up among the journals devoted to the sewing machine interest, for formerly it has been my misfortune to think there was a great lack of the true spirit of co-operation between you. Happily events and interests are changing the aspect of affairs, and I gladly behold that though the Atlantic may be a large body of water intervening between you, it is not too vast, too deep, or too wide in volume to prevent the grave and worthy senior editors of our journals from reaching out toward each other with a hearty and honest shake of the hands wisely performed through the able ability peculiar to the brilliant dash of the pen on both sides of the Atlantic.

But of course you want news for your readers as well as compliments for yourselves. To begin with, Canada, that section of this side of the globe, is claimed to be very active from Quebec to Ottawa, where, though not yet brisk outside of the large centres of population, inside of every city the offices are all unusually busy, preparing for the sewing machine campaign of 1884. Mr. Wanzer is in good spirits, predicting a good year for all hands. To one firm he answered: "We sent you 1,214 Wanzers C. and F. within fifteen days—twenty-two car loads, so do spare us for the hour, and we will send you all we can." But travelling and carrying facilities have not yet reached the ultimatum of business tourists in that section just yet; when it does, and the boom is in full swing, there is no doubt of a lively business being done at the Montreal emporium, presided over by the able Willis and Co., who spare no pains in equipping their travellers.

Now coming over to the New York side of the St. Lawrence, a lively picture presents itself; where the ice is broken up, the snow departed, the slash of roads turning to dust, while all vegetation is struggling back to renewed life and beauty, the very tree-buds casting the early shells of spring time, and making things look cheerful for the travellers and canvassers of the day, who are buoyant with the prospects of trade. True, we are in what is called a presidential year, but sewing machine men will let politics severely alone, as it does not serve their purpose to have too many irons in the fire at one time.

The Wilson Sewing Machine Factory is at last completed, presenting a structure unanimously pronounced one of the best in the country; it is of brick, 306 ft. by 40 ft. and four stories high. The first floor is devoted to "machinery," the heavier parts of the machine; the second to the manufacture of the smaller parts, and to the polishing up; the third is to be devoted to the assembling, assorting, inspecting, ornamenting, plating and sewing off; the fourth being allotted for packing and shipping purposes. To the rear of the building is a spur track somewhere about 2,000 feet long, connecting it with the main track, of the New York, New Haven, and Hartford railroad. The factory has two hydraulic elevators with a lifting power of five tons 100 feet per minute, the same being supplied by a 250-horse-power Rolins-Corliss engine, the steam for which is furnished from three boilers of 90-horse power each. The grounds in front of the building are tastefully laid out, with two large fountains of dancing water in full play.

The Company are profuse in the use of printer's ink, informing the world at large "that with an entire new organisation, new factory,



new machinery, they are about to place a *new machine* upon the market, surpassing in utility and beauty of finish anything heretofore offered to the world in the same line. That that being so, they are ready to negotiate agencies with responsible buyers in America or Europe for all or any unoccupied territory." All I can say just now is, the company in question never make promises they do not keep; therefore the new wonder of the Wilson Company is awaited with much anxiety by leading dealers throughout the country—for most of us know that with the able executives in charge of the company's affairs, the ample financial resources at their disposal, together with the well-known ability of the *attachés* in the various departments, no one need doubt but that all things will combine to foster the true elements of success which nothing but unforeseen disaster can prevent the ultimate realisation of.

Now, turning to the department of sewing machine novelties of excellent utility, we have the "New Empress Embroiderer, Improved," claimed to be adapted for the use of no less than thirteen different machines at the very start, every one of them being endorsed by all sewing machine companies and expert operators, as the simplest and best embroidering attachment before the public. I would advise some of the readers of your journal to send over for circular price lists to No. 4, West Fourteenth Street, New York City, and investigate for themselves; all our sewing machine dealers are, to use their playful vernacular, "scooping them in."

The next in order are what are called the "J. S. Sackett and Co.'s Specialties." Well, attachments of many kinds have been introduced to us, from time to time, that have failed to secure a permanent foothold upon public favor, but I believe that in the case of the Sackett automatic inventions the old order of things will be somewhat reversed; for taking the automatic scalloper, I find it does a very desirable range of work we have long tried to produce without being able to accomplish it, automatically performing that which requires neither skill nor experience on the part of the operator. Then there is the Sackett automatic needlecase, just the thing for a canvasser to show a desirable purchaser of a machine. Putting this and that together, the Sackett combination of specialties promises to be the rage among all our leading firms, dealers, travellers, and canvassers, because, as I suppose, they help to make sales more easy. But they should be seen and experimented with for ascertaining their merits as genuine novelties of extraordinary utility.

The Dulciphone is the next novelty of recent date, and, as the manufacturers have informed me, is already being handled by no less than five hundred agents, who claim that the instrument fairly helps forward the sale of a large number of machines; and so it is with many other improvements and inventions now in process of invention. It seems not sufficient to have a No. 1 machine in the factory catering for the favor of public patronage, unless you have the little et ceteras to go along with it to make it charming and useful, as well as perfectly beautiful.

The "Domestic" people are making a stir, as if they too have something to put on the market at the earliest date. Of that, more anon, when it comes to the front. The "Love" and the "Melone" machines, now nearly complete, have yet to be more fully understood before honourable mention can be made of them. But I have made an inroad upon your space already too long, perhaps; therefore, for the present—I remain, respectfully yours,

A. B. C.

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A good flux for soldering iron, brass or other metal, can be made by dissolving chloride of zinc in alcohol.

To make a good cement for leather or cloth, dissolve two ounces of gutta percha, which can be bought for about forty cents, in a pound of bisulphide of carbon, which can be got for forty or fifty cents. Any article stuck with this cement has the advantage of being elastic and holds together as well as if sewed with thread.

## THE VERTICAL FEED SEWING MACHINE.

Beyond dispute the only really Perfect Machine yet produced.

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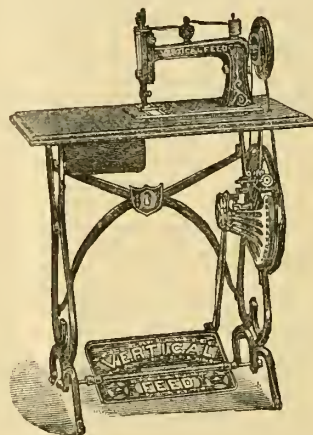
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SYDNEY AND MELBOURNE

EXHIBITIONS.

*In Competition with all the leading Machines.*



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its Feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking, and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity, and in the greatest perfection of style. The shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

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## SEWING MACHINES—IMPORT AND EXPORT.

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## JOURNAL OF DOMESTIC APPLIANCES

AND

*Sewing Machine Gazette*

WITH WHICH IS INCORPORATED

## THE HARDWARE TRADES' REVIEW.

Owing to the Premises of the Printers having been destroyed by fire on the evening of the 29th, the issue of this Paper has been delayed a few days.

The Editors ask respectfully Manufacturers and the Trade generally for information on anything concerning Sewing Machines, etc.

### THE SEWING MACHINE TRADE.

**B**USINESS is in a sound and healthy condition. There is no accumulation of stocks, either in this country or elsewhere, and most of the good makers are fully employed. Some manufacturers may not be able to endorse this statement, but we only speak of those who produce good and well-known systems of Sewing Machines in a well finished and workmanlike manner. After all there are only a few different kinds of Sewing Machines, and barring greater simplicity and improvement in details of arrangement and working parts, the present Sewing Machine does not differ much from the first ever made. But the Sewing Machine not only has found its sphere of usefulness greatly increased during the last ten years, but every day adds to the extended use of the same. Take Embroidering for instance; we do not doubt that a Sewing Machine will

ultimately be found able to do what is now only accomplished by the most elaborate machinery, and perhaps certain points of work by the Sewing Machine will be a substitute for printing on silk and the more expensive materials.

The expectations of much extended use of the Sewing Machine is one of the great hopes of the trade, for new applications of the machine must needs result in much extended orders for it. We should, therefore, say to our manufacturers not to relax a moment in their efforts to improve the Sewing Machine and find more uses for it.

Within the last ten years an enormous revolution has been wrought in more than one trade. In cotton spinning the self-acting mule, once the pride of Engineering and the glory of mechanical ingenuity, bids fair to be entirely superseded by the Ringthrostle, a much more simple and unpretentious machine. Puddled or wrought iron is to a great extent eclipsed by steel and iron, and will soon be as little used in comparison with steel, as steel was used ten years ago in comparison with iron. Again, look at the position which the Aniline or tar colours occupy. The use for Guarancine or madder for dyeing has almost gone out, and the cheap though less durable, but more showy tar colours have usurped its place. Then there is the Gas engine, which has replaced the small steam engine. Further, we may turn to Photography, which has superseded many branches of Engraving and the draughtsman's art, giving new modes of illustration in an inexpensive manner. We could go on indefinitely and describe a host of revolutions in the Arts and Manufactures. We are, therefore, justified in predicting for the little simple sewing machine a much wider application and a great future. Let us, therefore, not consider it a mere machine for the subordinate use it is put to now, but one which will ultimately force its way into the foremost ranks of tools and working machines. We have no doubt that the production of Sewing Machines will be taken up more and more by large firms, and carried on as it should be. The machine consisting of few and not large parts, is eminently adapted to be manufactured altogether by machinery which gives it that great exactitude and perfection, indispensable to a good machine.

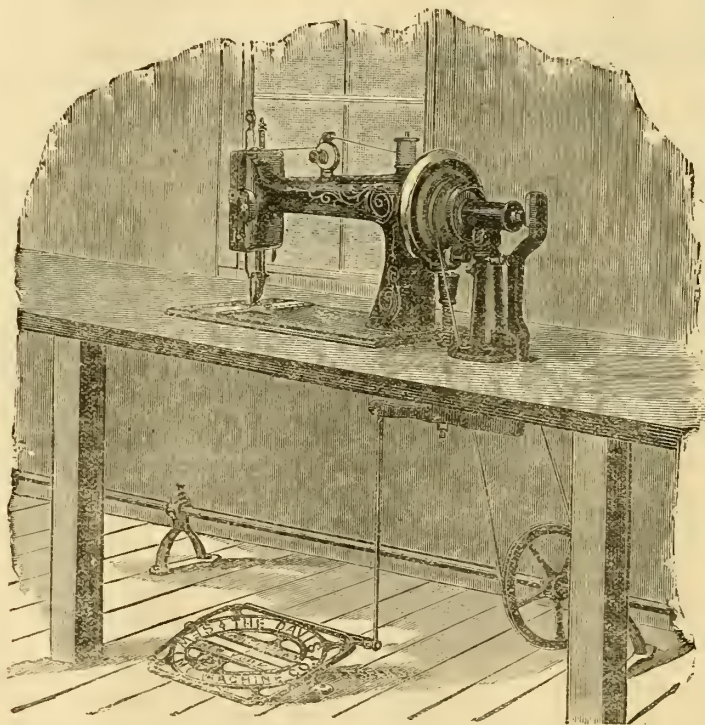
In America business is rather depressed. We give on another page a table copied from the *Sewing Machine Advance* of Chicago which shows the number of Sewing Machine Manufacturing concerns in the United States. Some of these being gigantic establishments, turning out 1,000 machines per week or even more, it is clear that competition there is very keen, and prices must be very depressed at times. We doubt whether there are as many machines made in the whole of Europe as in the United States alone, and in a future number we shall endeavour to state the capital embarked in the Sewing Machine trade in the United States, and the number of machines manufactured, and we shall do the same thing for the various states of Europe.



**MR. SAMUEL MORLEY, M.P., AT BRISTOL.**

MR. SAMUEL MORLEY, M.P., speaking at the annual meeting of the Chamber of Commerce at Bristol, recently, referred to the new Bankruptcy Act, and was bound to confess that, so far as he had had the opportunity of observing, he was disappointed with the working of the Act. In London estates were kept out of the Court rather than taken to it. The number of cases unquestionably was largely diminished, and the tendency of creditors and of debtors especially was to promote private arrangement. He was a decided enemy of private arrangement, except with the distinct sanction of the Court. He tried during the lengthy consideration before the Grand Committee to introduce a clause, the object of which would have been to register all private arrangements. He was distinctly of opinion that there ought to be no secrecy in these transactions. He was sorry to be obliged to confess that during the past few years his impression had been that the character of trade and traders needed some more distinct discipline than used to be the case thirty years ago, and he did not believe in allowing any private arrangements which were not sanctioned by a competent responsible tribunal. The proposed resolution to register

private arrangements was not acceded to, but he believed that after carefully watching the progress of the Act, they would have to adopt some rule by a short Act of Parliament, perhaps, which would bring all private arrangements under the control of the Court. He by no means wished to bring any indictment against the general trade of the country. He believed the great leading traders all engaged were men who exhibited that integrity which, so far as the law could maintain it, ought to be secured; but there was a large admixture of traders who ought to be made to understand that they were not to be at liberty to carry on their trade to a point where those wretched dividends which had been the rule for some years should be allowed to pass without condemnation. In regard to the objectionable sugar bounties, he had great fear that by their continuance by France and Germany the whole sugar trade of this country would be effected in a way that no skill, or perseverance, or capital could prevent. The time could not be far distant when the people of France and Germany would complain of the expenditure of their money to produce cheap sugar for other countries, and in the face of the ruin which would come to our own industries, he thought that here the people should continually protest till they got a remedy.

**"VERTICAL FEED" SEWING MACHINE COMPANY.**

Our attention has been called to the "Rohde Friction Clutch and Brake, which is adapted for use with all the leading machines.

It is very simple in principle and construction, and in its application and operation it is entirely free from the many difficulties and disadvantages which are known to exist in the other complicated motors or clutches heretofore and now in use.

The Clutch is fastened on the table or bench, close to the machine,

as shown in the above cut. A rod connects it with the treadle, by which it is controlled. The friction is quickly applied and released, and in both starting and stopping the machine, the action is direct, positive and instantaneous.

There are two belt grooves of different sizes on the clutch, and two corresponding grooves on the driving pulley on the shaft, by which a variation of about one-third, in the respective maximum speed, is attained.

### NEW WATER MOTOR.

We have just seen the design and description of a new inexpensive Water Motor, patented by Mr. Thomas Wheeler, of Preston, which appears to us worth attention. In our next issue we shall endeavour to describe it more closely.

### FRANCE.

The strike of the Anzin (France) Coal Mines terminated two weeks ago by the unconditional surrender of the men, having lasted seven weeks. The strike was caused chiefly by the inflammatory harangues of a few leaders and the support given to them by the radical newspapers. They tried to make the dispute a political one, inasmuch as the Company consists chiefly of capitalists belonging to the Orleans party. Consequently the workmen, who are of course Republicans to a man, were made to believe that the company was actuated by political motives in resisting the demands of the men, which was the abolishing of some harmless rules which have been in force at the Mines for many years, and the existence of which was of no importance to the men whatever. The Radical Press is furious at the defeat of their protégés. The Anzin Company is one of the most prosperous concerns in France, and they have tried their best hitherto to make their men comfortable and contented. They have built, besides, excellent cottages for their men, schools, clubs, baths, &c. Of course the men, if left alone, would have been contented and happy.

### EXPORTS OF BEETROOT SUGAR IN 1883.

|         |       | Austria.  | Germany.   |
|---------|-------|-----------|------------|
|         |       | cwt.      | cwt.       |
| 1883-4  | .. .. | 5,000,000 | 11,500,000 |
| 1882-3  | .. .. | 5,793,786 | 9,606,462  |
| 1881-2  | .. .. | 4,518,080 | 6,239,298  |
| 1880-1  | .. .. | 6,339,128 | 5,896,618  |
| 1879-80 | .. .. | 4,516,288 | 2,737,224  |

It will be seen that the increase in the Beetroot Sugar industry in Germany is enormous, and is caused entirely by the stimulus given by the bounties on the export of sugar. The quantity produced is now vastly in excess of requirements, and the production must now be curtailed or the manufacturers will lose money in spite of bounties.

**GREAT FALL IN SUGAR.**—Some raw sugars, "Native Penang" and "Jaggery," have this week been sold at one penny per lb., the lowest quotation on record.

### AMERICAN MILLIONAIRES.

The *New York Star* gives a list of American millionaires, according to which Mr. Vanderbilt possesses a fortune of sixty millions sterling. Next to him comes J. W. Mackay, whose property is valued at fifty-five millions sterling; Mr. Jay Gould has twenty millions; Senator Jones about the same amount; Mr. Crocker possesses a capital of ten millions; Mr. Rochefeller eight; Mr. Stanford seven; Senator Fair six; Mr. Huntington and Mr. Mills have each four, and Mr. Russell Sage three millions sterling. There are about 25 persons more owning from one million to two, amongst whom are Cyrus Field, Mr. Lorillard and others, but the above is quite sufficient to show that the United States are already the richest nation in the world. Nor is wealth unequally diffused, that is to say, some few having immense fortunes and the rest nothing. No. Most people who are willing to work are well off and can save money, and there are many people amongst the upper and lower middle classes who own good fortunes. It is clear enough that this must continue. With a constantly augmenting population—with an enormous manufacturing industry, well protected on all sides—and with an immense territory containing almost everything for daily wants, which is gradually being opened, with an immense export of cotton, wheat, &c., which, besides the producers, maintains an army of merchants, brokers, bankers, and

middlemen of all kinds, it would be most singular if this constant accumulation of wealth should not continue.

### MONEY MARKET.

Money continues abundant and rates are weak. Best paper can be discounted at  $1\frac{1}{2}$  to 2 per cent. Gold is coming in rather large quantities from America, the imports amounting in 7 weeks to £5,480,000. As the continental exchanges are very weak it is likely that further arrivals will go direct to the Continent.

The reserve of notes and coin in the Banking Department of the Bank of England is £15,000,000, and the stock of bullion over £25,000,000.

Silver is worth 50s, as money is tight in India. Some demand for that metal has taken place and will most probably continue.

The Stock Exchange has been devoid of any special feature, except that American Stocks are considerably lower, especially those controlled by Jay Gould. Most of these speculative stocks have never been so low as they are now. We shall never get tired of warning our readers to have nothing to do with those American stocks which are exported to this side, as nothing good will ever be allowed to be sent from America to this country. All good and well-paying securities are eagerly bought up by American capitalists who are greatly in need of them. The number of great capitalists in the United States is much in excess of what exists in this country, whatever may have been the case 30 years ago. But not only are the number of men owning £100,000 to £500,000 much greater in the United States than here, but there are in that country men possessed of fortunes, the like of which do not exist in the old world, the Rothschilds alone excepted. In another column we give a list of these extraordinary fortunes. It must be therefore patent to everyone that such monetary leviathans can easily absorb all those good and solid investments which are offered there from time to time, and the stocks they don't buy, our own people had also better leave alone.

The wrangle in Mexican railway shares between bulls and bears continues unabated. The Directors are greatly to blame that they give away to the shareholders a dividend which was derived from the extraordinary receipts from the carrying of railway material of rival lines. Had they distributed only a small portion of it, and put the rest to reserve, the stock could never have risen to its former price (145), nor fallen to its present depth. They must have known the exceptional nature of that traffic.

Mexican Stocks (Government) have risen a little on the announcement of another envoy being sent to Europe to treat with the Bondholders. Whenever that Stock sees 28 or 30, again, those of our readers who own it had better get rid of it in double quick time. This Stock will never be anything but a shuttlecock for speculators, as Mexico will never make any but unacceptable offers, and even then never keep the conditions which she has accepted, supposing such an unlikely thing as an arrangement for the settlement of the debt being come to. A good and stable government is one of the things which the Spanish race, either at home or abroad, will never endure.

London Waterworks shares are worth buying at present reduced prices. The Dobbs judgment, so far from being an injury, will be a great boon to them. They never charged before the full rates calculated on the rateable or actual value of the houses, which they now do to the full extent allowed by the judgment of the House of Lords.

There is no movement in any other department of the Stock Exchange. Egyptian Stocks are very dull, on the repeated declaration of the Government that they do not mean to set up a protectorate in Egypt. If investors or speculators really thought so, these stocks would probably decline 15 to 20 per cent.; but nobody really thinks that the protestations of the Government are anything but idle words, intended to ward off the accusations of inconsistency between their words of two years ago and their present acts. In the meanwhile, they are drifting slowly but surely into the very thing they are so anxious to repudiate. Of course the action of the French



is an unknown factor in Egyptian affairs. It is by no means impossible that the French, seeing English pusillanimity and hesitation, and emboldened by recent successes in Madagascar, Tonquin, &c., may try to step in and regain the influence which they gave up two years ago. In that case they may probably *rescue* for themselves, and we will *retire*. In vain has the German Government given the Gladstone Ministry to understand that they are welcome to do with Egypt what they like. If this hint is not acted upon soon, other arrangements will be forced upon the Berlin Cabinet, which may not be acceptable to ourselves.

Nothing striking can be said in this issue of the old well-known investments. The scarcity of such will prevent any decline of importance, especially as Consols continue to be paid-off. The proposal of the Chancellor of the Exchequer to reduce the interest to  $2\frac{1}{2}$  and  $2\frac{1}{2}$  per cent. will not lessen the perplexity of investors.

There is no doubt that the present low rates of money will produce a swarm of new undertakings, loans, &c. We trust that our readers will not part with their money without due consideration, and not be carried away by high-sounding names in the directorate. More concerns with first-rate names have been shipwrecked than those which have been content with respectability, though less splendour.

The Bank of France has in its vaults £40,000,000 sterling in gold, and £40,000,000 sterling in silver, and has in circulation £120,000,000 of bank-notes. The entire circulation of that country is £180,000,000 sterling in gold and £120,000,000 sterling in silver. England has a note circulation of £40,000,000 sterling, and the Bank of England holds £25,000,000 in gold. The entire amount of gold in the country is estimated at £110,000,000 sterling, and about £15,000,000 to £20,000,000 silver. The enormous trade of this country is carried on with very little currency, as the cheque system and the Clearing House enable the country to dispense with a vast amount of coin and notes. The operations of the Clearing House, for the week ending April 23rd, amounted to £94,338,000. Of course, in a crisis this economy of coin and notes, as practised in the ordinary times, greatly aggravates the evil, as all banks begin to hoard and reduce the available supply of bullion, which is none too large.

### COOKERY RECIPES.

THESE are family recipes of tried merit, having been used for many years in the Editor's family.

#### WHITE FISH.

Take the fish and sprinkle it with salt, in which it should lay about an hour. Put it into a stew-pan with a large onion cut in slices, and a little saffron, cover it with water. When it boils throw in a little finely-chopped parsley; let it continue to boil till sufficiently done. When done take it out and strain it well. Then take a little of the liquor, a dessert-spoonful of flour, a teaspoonful of vinegar, a tablespoonful of sugar, a little mace, a little pepper, half-a-teaspoonful of bruised ginger, half-pound of butter; the whole of this is mixed together and boiled until quite smooth. It is then poured over the fish and served.

#### STEWED BEEF WITH ASPIC JELLY.

Take part of a brisket of beef, lay it in pepper, salt, and ginger, for two or three days; put it into a stew-pan, with a calf's-foot, pint-and-a-half of water, half-pint of vinegar, a large onion stuck with cloves, a little whole ginger, two or three anchovies, pepper and a little soy, and two lemons cut in quarters. When it has stewed gently for four or five hours, strain off the liquor and take off the fat. The rinds must be taken off the lemons.

#### COLD MEAT COOKERY.

Mince any cold meat and season it; put a little real gravy with it (and some Harvey or other sauce). Have ready some stale crumbs finely grated, grease a saucer or scollop-shell tin, put a layer of

crumbs and then the meat, &c.; cover it well with crumbs, and on the top a few pieces of butter, and put in the oven or before the fire, till thoroughly hot, and of a nice light colour.

#### BAKEWELL PUDDING.

Line a pie-dish with puff-paste, put a layer of jam, then add the following mixture:—three ounces of breadcrumbs, three ounces of powdered sugar, three ounces of butter, the yolks of three eggs, half a lemon grated with the juice, and a little nutmeg. When nearly baked put on the whites of the eggs beaten to a froth; put it in the oven for a few minutes to brown, and grate a little sugar over it.

#### FRENCH PANCAKES.

Half-a-pint of milk, two ounces of butter, two ounces of loaf sugar, two ounces of flour, two eggs. Put milk, butter and sugar into a saucepan to dissolve (not boil); beat eggs and flour together till quite smooth, then add the other ingredients and well mix. Divide this quantity and put it in four saucers to bake for twenty minutes. Lay two pancakes on a dish and spread preserve over, cover them with the other two pancakes. Serve very hot.

#### ORANGE JELLY.

Dissolve two ounces of gelatine in a pint-and-a-half of water, add the juice and rind of a lemon, six ounces of loaf sugar, and the rind of two oranges. Boil this together five minutes, then add the juice of five oranges; beat the whites of three eggs to a stiff froth, break the shells and mix with them, stir carefully into the jelly, and pass through the bag till clear.

### THE RECENT LARGE PURCHASES OF LAND IN THE UNITED STATES.

|                                                          | Acres.    |
|----------------------------------------------------------|-----------|
| English Syndicate No. 1 (in Texas) .. ..                 | 4,500,000 |
| English Syndicate No. 2 (in Texas) .. ..                 | 3,000,000 |
| Sir Edward Reed, K.C.B. (in Florida) .. ..               | 2,000,000 |
| English Syndicate, headed by S. Philpotts .. ..          | 1,800,000 |
| Marquis of Tweeddale .. ..                               | 1,750,000 |
| Phillips, Marshall & Co., of London .. ..                | 1,300,000 |
| German Syndicate .. ..                                   | 1,100,000 |
| Anglo-American Syndicate .. ..                           | 750,000   |
| An English Company (in Mississippi) .. ..                | 700,000   |
| Duke of Sutherland .. ..                                 | 425,000   |
| British Land and Mortgage Company .. ..                  | 320,000   |
| Captain Whalley, M.P. for Peterboro', England .. ..      | 310,000   |
| Missouri Land Company, Edinburgh, Scotland .. ..         | 300,000   |
| Hon. Robert Tennant, of London .. ..                     | 230,000   |
| Scotch Land Company, Edinburgh, Scotland .. ..           | 247,666   |
| Lord Dunmore .. ..                                       | 109,000   |
| Benjamin Newgas, Liverpool, England .. ..                | 100,000   |
| Lord Houghton .. ..                                      | 60,000    |
| Lord Dunraven .. ..                                      | 60,000    |
| English Land Company (in Florida) .. ..                  | 50,000    |
| English Land Company (represented by R. Newgas) .. ..    | 50,000    |
| An English Capitalist (in Arkansas) .. ..                | 30,000    |
| Albert Pell, M.P., Leicestershire, England .. ..         | 10,000    |
| Sir John Lester Kaye, Yorkshire, England .. ..           | 5,000     |
| George Grant, of London (in Kansas) .. ..                | 100,000   |
| English Syndicate (in Wisconsin) .. ..                   | 110,000   |
| A Scotch Company (in California) .. ..                   | 140,000   |
| F. Ellershausen, of Nova Scotia (in West Virginia) .. .. | 600,000   |
| A Scotch Syndicate (in Florida) .. ..                    | 500,000   |
| A. Boysen, Dutch Consul at Milwaukee .. ..               | 50,000    |
| Missouri Land and L. S. Co., Edinburgh, Scotland .. ..   | 165,000   |
| English Syndicate (in Florida) .. ..                     | 59,000    |

Total acres .. .. 20,941,666

## THE WANZER ESTABLISHMENT IN NEW YORK.

ENTERING, we step into a small-sized hall, where a number of machines are placed in rows; on our right is the private office of the great sewing machine king, to which no strangers are admitted unless invited, and you are always invited if you wish to see Mr. Wanzer on business or otherwise. He is very punctual at his place of business. Unless on some very urgent call, exactly at seven in the morning his rig drives up in front and he quickly descends. He is wonderfully sprightly on foot for a man of his age. We were courteously invited into his office, where the object of our visit was soon made known. The Knight sits on one side of a large covered desk, strewn with letters and papers; on the opposite side sits his son, Frank, busy reading over the letters; on the right side, as you enter, hangs a large frame filled with bronze and gold medals, awarded for merit by many nations both in Europe and America. We were taken all through this large establishment; we saw thousands of machines in their different grades of construction; every department was filled with workmen, so thick in some rooms you would really think they were in each others' way. We saw 500 machines piled up in front, ready for shipment the same day. The firm is building another large factory, which, it is said, when completed, will be 366 feet square, run by a 200 horse-power engine, which is all ready put in. There was used in the chimney alone, 150,000 bricks, and the words "Wanzer," painted on its square, covers a space of 80 feet on each side of the chimney.

The retail trade is managed by W. P. Van Norman, who has several canvassers in the city, besides a number of waggons for the city and country trade. He seemed to be rushing business. He informed us that his sales were rather more than they were last season.—*Sewing Machine News.*

## LAW.

### BOW COUNTY COURT.

(Before Mr. Registrar Hore).

GIRTON V. BENNETT AND NEWELL.

The plaintiff is a sewing machine, bicycle, and tricycle manufacturer, of 106, Bow Road; Bennett a fishmonger, of 91, Kerby Street, Poplar; and Newell a foreman, of 32, Church Street, Cubitt Town, and the action was for the recovery of £13 7s., the balance of a joint promissory note for £14 7s., the price of a tricycle.

Mr. Haynes, solicitor, of Bow, appeared for the plaintiff, and Mr. Pook for the defendant Newell—it being stated that the other defendant had died since the execution of the promissory note.

It appeared from the statement of Mr. Haynes that on the 5th July last Bennett purchased from the plaintiff for £14 7s. a bicycle for business purposes, and, with Newell as security, signed a joint promissory note for the amount. £1 was paid down, and instalments of 2s. 6d. a week were to be paid for the balance according to the conditions of the note. No instalment, however, was ever paid, but Bennett sold the tricycle for £8 or £10, and with the money commenced the business of a fishmonger. Some weeks after the machine was sold, the wife came to the plaintiff, and said her husband could not get on with the business, but the money would be paid, though the plaintiff could never get anything but promises.

Judgment for the plaintiff for £13 7s., payable at 8s. a month.

## USEFUL NOTES.

From the *Sewing Machine News.*

THE cause of breakage of glass presser feet is generally too tight a fit of the glass in the metal. If the glass be too large, grind it narrower or spring the fork, where it is held further apart. If a glass be cracked, the thread will be liable to crowd into the crack and will either break or chafe.

WANT of regularity of stitch in sewing is often occasioned by the feed-bar or lever being loose in its seat, by a loose presser-foot or by a bent needle.

To make a cement for attaching labels to metals, take ten parts of gum tragacanth mucilage, ten parts of honey, and one part of flour.

CORK and soft rubber may be very readily shaped by holding them in contact with a revolving grindstone. The surface so produced is smooth and nice.

A BLACK varnish for iron or other metal can be made of asphaltum three ounces, boiled oil four quarts, burnt mumber eight ounces. Dissolve by heat, and while cooling thin with turpentine.

## COMPRESSED AIR AS A MOTIVE POWER.

*Martineau and Smith's Hardware Trade Journal* says:—There is a Bill before Parliament the object of which is to give to a joint-stock company powers to erect very large engines on land within the borough of Birmingham, and adjacent to the Birmingham and Warwick Canal, and to lay mains in a certain area. The steam engines are to be of great power, and their duty will be to keep the mains charged, by means of suitable pumps, with air at a pressure of 45 lbs. per square inch. This compressed air is to be supplied to customers just as gas now is, and its function will be to drive small engines for manufacturing and other purposes. Those who already possess small steam-engines and boilers will be able to discard the boilers and all nuisance and expense attendant thereon; while those who have hitherto wished for mechanical power, but been unable to have it, will only need to supply themselves with small engines of a cheap and simple form in order to be able to avail themselves of the power offered. In common with gas engines, air-driven engines will possess the great advantage of being instantly started and stopped, and of costing nothing for power except when running. But the air-driven engines will have several advantages of their own. To wit: they will be of much less first cost, they will not cause heat or smell, neither will they need any flue to carry off products of combustion. In fact, their tendency will be to ventilate and purify any place where they are used. It is impossible to say beforehand what measure of success will be the ultimate lot of the new scheme; but the promise is good, and important results are likely to ensue. The users of the compressed air will pay by meter, and a man who only uses his engine half-time will find his air-bill in proportion. Extensive use will be made of the compressed air for driving sewing-machines for industrial purposes, and even for private use.

## TRADE NOTES.

It is remarkable how keenly all news from the sewing machine circles of America are looked for in Great Britain, on the continent of Europe and far-off Australia. The United States is justly regarded by the whole world as the centre, the home of the sewing machine trade, where the instrument got its birth, where it has received its development, and where the perfection of the mechanism is being gradually attained. Still while the trade is aware that it leads the world, it is beginning to take great interest in the foreign trade and to spare a portion of its time from the absorbing pursuits of home affairs to contemplate what their brethren are doing in distant climes.

At the International Exhibition, of last year, machines of strictly American manufacture succeeded in obtaining high awards. At Calcutta the Wheeler & Wilson Co. carried off the "Gold Medal," and again at Cork, in Ireland; while at Amsterdam the White carried off the "Gold Medal," and was the only machine of either American or English manufacture that did so. The manner in which the "White" Company took advantage of this fact as a good advertising medium brought about an immediate squabble. As soon as the fact became definitely known of their success, posters were at once printed in several languages and forwarded to every dealer who had or had had the White in stock. Then the storm commenced in earnest. First Mr. Kemsley, of Rennie & Co., representing the "Standard," boldly claimed the Medal for the "Standard," and acting "under authentic information," as he said, demanded that Mr. Sawyer should at once call in all the bills and publish a denial.



The inaccuracy of Mr. Kemsley's information was, however, quickly shown by the publication of the official awards in the *Holland Trade Journal*, and afterwards in the *Official List*. The "White" had the "Gold Medal," the "Standard" the "Silver Medal." The Singer Manufacturing Company, who obtained a "Diploma of Honor" for the general excellence of their exhibit, challenge the value of a "Gold Medal" as an award compared to a "Diploma of Honor."

The Wanzer Company are making an energetic push in Europe. Wanzer does not propose to be left out if it can be helped.

Trade varies much in England. The hand machines are becoming very popular. In the Southern counties they make the bulk of all the sales. In the North, however, at the great manufacturing centres of England, none worth mentioning are sold.

Mr. John Reed, of the "White" Company, has been made the recipient of a very handsome present from the company, presented through Mr. Sawyer, his chief, as a mark of appreciation of his administration during the absence of the manager in America. R. B. Turner, of Brussels, the largest sewing machine dealer in Belgium, is touring through Italy.

Mr. John Tester, for many years manager of Bradbury & Co., is sole agent for the "Gritzner" in Great Britain, under the style of John Tester & Co. Charles Bradbury, late of the firm of Bradbury & Co., is sole agent in England for Messrs. Grimme, Natalis & Co., of Brunswick.—*Sewing Machine News*.

## THE WATER COMPANIES AND THE RATEPAYERS.

(Continued.)

THE following statement of the scale of charges embodied in the Private Acts of the Water Companies of London, is taken from a return furnished by the Companies, and laid before Parliament on the motion of Mr. Thorold Rogers in 1882:—

"The Chelsea Company's Act is dated 1852. The rates at which water is to be supplied for domestic purposes are as follows:—Where the annual value shall not exceed £200, 4 per cent. per annum on annual value; exceeding £200, 3 per cent. The additional rates are as follow:—(A) first water closet, bath, or high service; (B) each additional water closet, bath, or high service; high service being defined to be a delivery of water at an elevation of 10ft. above the pavement in front of the house supplied.

|                                                                     | A.   | B.  |
|---------------------------------------------------------------------|------|-----|
| On houses exceeding £30, but not exceeding £50 annual value .. .. . | 4s.  | 2s. |
| Exceeding £50, but not exceeding £100 .. .. .                       | 6s.  | 3s. |
| " £100 .. .. . 200 .. .. .                                          | 8s.  | 4s. |
| " 200 .. .. . 300 .. .. .                                           | 10s. | 5s. |
| " 300 .. .. .                                                       | 12s. | 6s. |

Domestic supplies do not include horses or cattle, the washing of carriages, gardens or fountains.

"The scales of the New River Company, of the Grand Junction Company, and of the West Middlesex Company are the same as the Chelsea; but the West Middlesex Company can add to the 4 per cent. and the 3 per cent., 1 per cent. for all services more than 200ft. above Trinity high water mark. The term annual value is used in both cases.

"The East London Company begins by charging not more than 5 per cent. on the annual value of the house. The extra charges are for every single water closet and every single fixed bath—above £30, 4s.; above £50, 6s.; above £100, 8s.; with 25 per cent. added to each rate for high service.

"The Lambeth Company's scale is based on annual

value, under an Act of 1848. The following table shows the per centage charges on annual value where there is no water closet, next the further charge for one, and then this charge for each additional closet (only closets are specified):—

|                      | Per cent. | One. | Others (each) |
|----------------------|-----------|------|---------------|
| Under £20 .. .. .    | £7 10     |      |               |
| From £20 to £40 .... | 7 0       | 10s. | 5s.           |
| " 40 " 60 ....       | 6 10      | 12s. | 6s.           |
| " 60 " 80 ....       | 6 0       | 15s. | 7s. 6d.       |
| " 80 " 100 ....      | 5 10      | 15s. | 7s. 6d.       |
| Above 100 .. .. .    | 5 0       | 20s. | 10s.          |

A supply of water for domestic purposes does not include a supply for 'baths,' horses, cattle, or for washing carriages. For other than domestic purposes water is to be supplied upon such terms and conditions as shall be agreed upon.

"The Southwark and Vauxhall Company, under their Act of 1852, charge for a supply for domestic purposes not more than 5 per cent. per annum on the annual value of the house. For water closets, baths, or high services, the extra charges are as follows:—

|                         | One. | Others (each). |
|-------------------------|------|----------------|
| From £30 to £50 .. .. . | 4s.  | 2s.            |
| " 50 " 100 .. .. .      | 6s.  | 3s.            |
| " 100 " 200 .. .. .     | 8s.  | 4s.            |
| " 200 " 300 .. .. .     | 10s. | 5s.            |
| Above 300 .. .. .       | 12s. | 6s.            |

For other than domestic purposes water may be supplied on such terms and conditions as may be agreed upon.

"The Kent Company has an elaborate scale. Domestic purposes include a supply of water for one water closet, but not a supply for more than one or for any bath, and do not include a supply for cattle or for horses, or for washing carriages, if either are kept for hire or are the property of a dealer, or for watering gardens by means of any tap, tube, pipe, or like apparatus. For a second closet the charge is 5s. up to £9, 6s. up to £20, 7s. up to £40, 8s. up to £80, and above £80, 10s. For a third and all other closets the extra charge is 5s. each. For the first bath the charge is 6s. up to £9, 8s. up to £20, 10s. up to £60, and 12s. above. For all other baths the extra charge is 6s. each. The rates including one closet are based on the yearly value of premises, and are as follow:—

| Under      | £ s. d. | Under       | £ s. d. | Under       | £ s. d. |
|------------|---------|-------------|---------|-------------|---------|
| £7 .. .. . | 0 8 0   | £15 .. .. . | 0 18 0  | £35 .. .. . | 1 15 0  |
| 8 .. .. .  | 0 9 6   | 16 .. .. .  | 0 19 0  | 40 .. .. .  | 2 0 0   |
| 9 .. .. .  | 0 10 6  | 17 .. .. .  | 1 0 0   | 45 .. .. .  | 2 5 0   |
| 10 .. .. . | 0 12 0  | 18 .. .. .  | 1 1 6   | 50 .. .. .  | 2 10 0  |
| 11 .. .. . | 0 13 0  | 19 .. .. .  | 1 2 6   | 60 .. .. .  | 2 15 0  |
| 12 .. .. . | 0 14 0  | 20 .. .. .  | 1 4 0   | 70 .. .. .  | 3 3 0   |
| 13 .. .. . | 0 15 6  | 25 .. .. .  | 1 8 0   | 80 .. .. .  | 3 10 0  |
| 14 .. .. . | 0 16 6  | 30 .. .. .  | 1 11 0  | 95 .. .. .  | 3 16 0  |

And, exceeding £95, the rate is 4 per cent. on the annual value."

A correspondent points out that the valuation lists under the Metropolis Valuation Act, which will come into force on April 6 next, show—

|                                         |             |
|-----------------------------------------|-------------|
| Total gross value of .. .. .            | £35,026,577 |
| Total rateable value of.. .. .          | 28,990,289  |
| Difference .. .. .                      | 6,036,288   |
| On which 4 per cent. amounts to .. .. . | 241,451     |

So that the saving to the householders of the Metropolis for the adoption of rateable value as the basis of charge may be roughly estimated at a quarter of a million.

(To be Continued.)

**AMERICAN NOTES.**

THE White Machine was justly awarded the gold medal at the International Exhibition, at Amsterdam, and we naturally expect in the forthcoming exhibitions at Antwerp, Turin, Nice, and Sydenham, that history will repeat itself. The announcement of the company that the White was the only machine of American or English manufacture that obtained this distinguished award has, however, given great umbrage in some quarters, and fierce has been the warfare, particularly abroad, between the energetic agents of the White Company and the representatives of a company who obtained one of the several diplomas of honour granted. Acrimonious advertisements have been printed, and even lawsuits have been threatened; but even competition of this kind only serves to stimulate business, and so long as no actual misrepresentation is made no harm is done. For the benefit of our subscribers in the trade, however, we publish the following from page 15, No. 8, of *The Sewing Machine*, a trade journal published in Holland, in three languages:—

"Mr. Clemens Müller, member of Class 42 of the International Jury of the Amsterdam Exhibition, publishes what follows—As I had the honour to be appointed by the Chancellor of the German Empire as Juror for the Colonial Exhibition of Amsterdam, I was in this quality, as the only expert and man of the trade for sewing machines

in Class 42, appointed to examine, not only the German sewing machines, but also all those of foreign manufacture, and to claim for them eventual awards. The Singer Manufacturing Company had exhibited a very large number of machines, until now offered in Germany under the name of 'Original Singer Sewing Machines,' moreover, however, a great many machines of more recent construction, of which, as far as I know, only a few samples have found their way into Germany. After a scrupulous and essential examination, I could not claim any award for the former, viz., for the machines which at that time were sold in Germany, as they were by no means equal with the others, and principally with the products of most of the German manufactories, compared to which they were of inferior quality. For the machines of more recent construction, however, I could claim a diploma of honour, which, in consequence, was awarded to them by Class 42 of the International Jury."

Visitors to the Amsterdam Exhibition will have no difficulty in recollecting that the machines alluded to "as of more recent construction" were essentially machines for special purposes of manufacture; therefore, the award of the gold medal to the White Sewing Machine Company for the excellence of their purely family sewing machine was the more gratifying.—*U. S. S. M. Times.*

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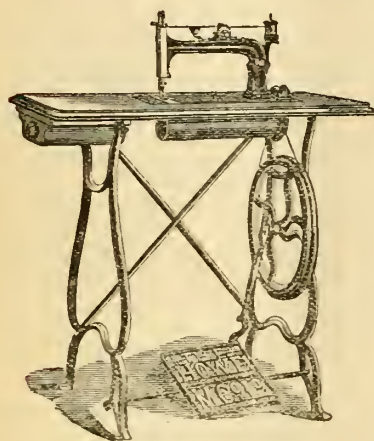
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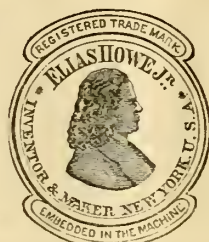


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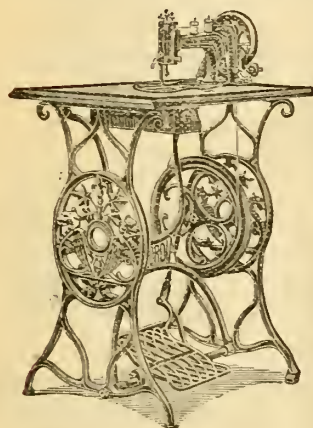
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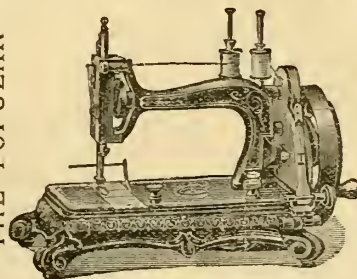
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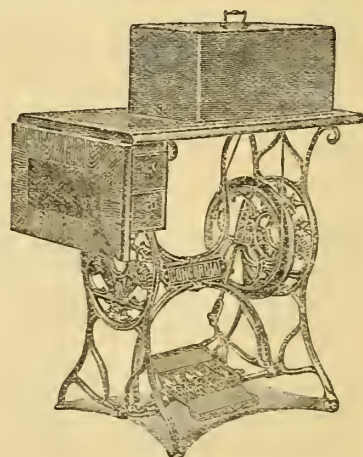
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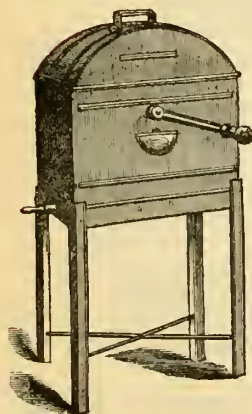
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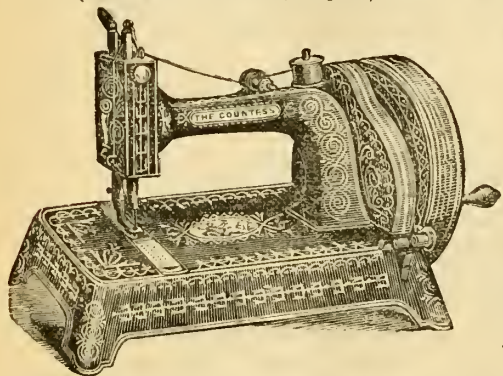
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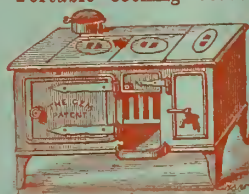
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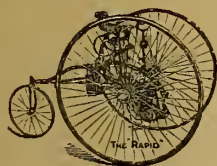
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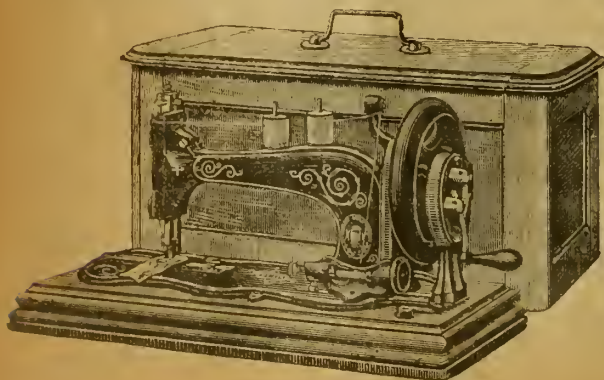
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# Agreement for the

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No. \_\_\_\_\_

The undersigned hereby hires the \_\_\_\_\_

No. \_\_\_\_\_ belonging to \_\_\_\_\_

upon the terms and conditions following:—

- I. On the sum of £ : s. d. being paid to \_\_\_\_\_ in \_\_\_\_\_ instalments of £ : s. d., the first instalment to be paid on \_\_\_\_\_ and each subsequent instalment at the expiration of each succeeding \_\_\_\_\_ the \_\_\_\_\_ to belong without further payment to the undersigned.
- II. In case of default in the punctual payment of any instalment, the instalments previously paid shall be forfeited to \_\_\_\_\_ who shall thereupon be entitled to resume possession of the \_\_\_\_\_, the understanding being that until full payment of £ : s. d. the \_\_\_\_\_ remains the sole and absolute property of \_\_\_\_\_ it is not to be removed from the undermentioned address, can be inspected at any reasonable time by any duly authorised agent or servant of \_\_\_\_\_ and is only lent on hire to the undersigned, who will take all reasonable care of it during the hiring, and in case of damage by fire or accident, bear the loss or risk.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 18

Signed \_\_\_\_\_

6d. STAMP.

Address \_\_\_\_\_

Witness to the above Signature \_\_\_\_\_

Address of Witness \_\_\_\_\_

### All Change of Residence to be intimated to

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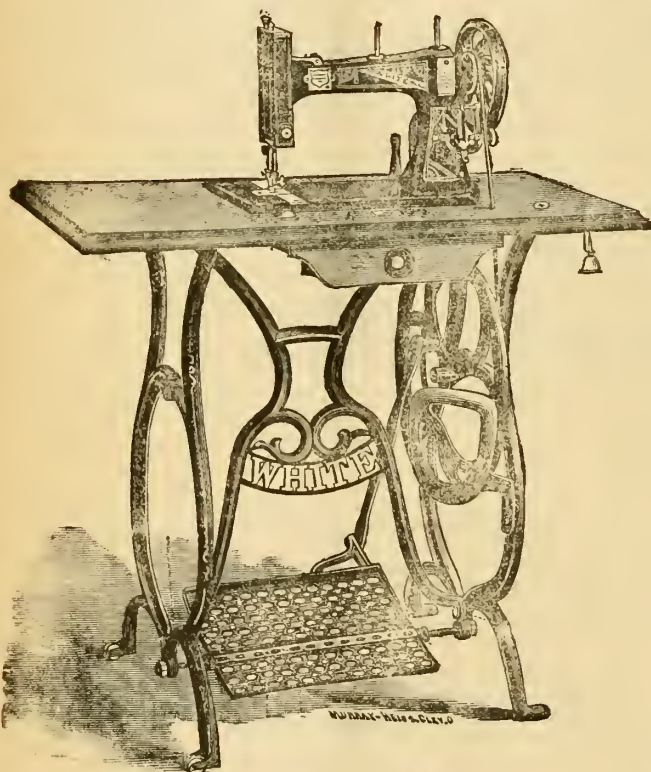
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## THE BEARD OF ABRAHAM WEINKAEFER.

(Concluded.)

HOW this came about is soon told. It took five weeks for Abraham with a troop of other prisoners to reach St. Petersburg. He was lodged in the prison in the fortress, in the division set aside for political offenders. In the chancery of the prison he was briefly examined. He loudly protested his innocence, but of course he was not believed.

Indeed, there was only one single document against him; this was the report of the chief of the police in Winniza, which was forwarded with the prisoner, in which he stated that, according to the order of the Government, he hereby delivered Abraham Weinkaefer, accused of political crimes, but this was enough to detain the man. Further documents, the judges thought, would follow soon. The prisoner was clothed in the garb of an accused offender, and as the long beard was quite against the order of the prison, it was shaved off.

Oh! the splendid beard, the patriarchal beard. The unfortunate man did not care much about it—he had greater sorrow. But how would those two art-loving souls, the Governor-General and the Duchess, have lamented, had they known of this irreparable loss for the fine arts. The best model for a patriarch which existed in the Empire, had been feloniously mutilated and rendered unserviceable. What a pity!

But they knew nothing about it. It is true that the Duchess made some enquiry of the Governor-General, as fourteen days had passed since her conversation with that gentleman, where her model was. He immediately enquired of his Adjutant how the matter stood, who in his turn sent a telegram to the provincial Government. But the reply, that the affair had been delayed through the dilatoriness of the chief of the police in Winniza, but was now all right, and the Jew would be in a few days in St. Petersburg, quieted all parties.

A few days afterwards, the Governor left the capital, to go abroad on a journey of pleasure. From his Adjutant he took leave for good. He had recommended the excellent young man for a responsible post in one of the Northern Provinces.

When the Governor returned to his post a few months afterwards, there was no mention made any more of the Jew. He had totally forgotten him, as well as his Adjutant. The more did the forsaken wife remember her unfortunate husband. When a year of vain expectation for his return had passed, she resolved upon a journey to Kaminatz-Podolsk. She would implore the Governor-General for mercy; the proof of his former grace and affection, the amber mouth-piece, she took with her; she had not sold it, though want had already become an inmate of her house, which was deprived of its support and bread-winner.

A fatal accident would have it, that the Governor was again in St. Petersburg when the woman came to call on him. But his deputy received her, and he was not a heartless man either; he listened patiently to her lamentations, and then gave her the only answer which he could give, namely, that for political crimes, there were only the Courts of Justice. Neither he nor his Chief would be able to do anything for her. But if her husband was really innocent, he would undoubtedly be soon liberated and return home.

With this poor consolation, she had to be contented and return home. But when a second year had passed, she wanted to repeat the journey, though she could not produce the mouth-piece any more. But her friends told her that the Governor-General had been moved from his former office; he had received a most important post in Moscow.

Meanwhile, poor Abraham sat in prison in St. Petersburg. He was told that he would be soon admitted to a hearing, but day after day passed, month after month, and a year went by without anybody looking after him. His prayers for trial remained unheeded, they did not even come to the ears of the examining "judge." Thou wilt be tried as soon as thy turn comes, said the warder of the prison. At last, at an inspection of the prisons, attention was drawn to his case.

A year's imprisonment without an investigation! that appeared a little queer, even to the Inspector. He enquired about the matter from the examining judge, but he could safely reply, that he was not in fault, the papers had not yet arrived, and this excuse the Inspector had to allow as satisfactory.

Another year passed. The old man decayed more and more. He could hardly have been fit for anything better than a model for Job. Long he was kept up by his confidence in God, but now the fury of despair overwhelmed him. He began to rave in his cell, and a heavy punishment for breach of discipline had to be inflicted. But the affair had this advantage at any rate, to remind the authorities of him.

The Court of Enquiry demanded from the Government the papers. The reply came only after several months, and was, of course, that nothing was known about the matter. The arrest had been made at the request of the then Governor-General, who was now in Moscow. The Court at once made enquiries from him, and demanded an explanation.

His deputy replied, that his Excellency was at the German Baths. The matter would be laid before him as soon as he returned.

Another year passed, and another Inspector came. The sight of the old man moved him deeply to pity, though he was hardened and used to the sight of misery. But the narrative of the old man's sufferings moved him still more. He resolved to probe the matter to the bottom, and commenced his investigations quite



to rule. First he enquired from the chief of the police in Winniza. The reply was, "Order of the Government," but with this answer the good man was not satisfied. He had the courage to express his conviction that there must be a mistake or a confusion of names. "If so," the chief of the Police answers, "the mistake has already had terrible consequences; the wife has died from grief, and the children have been left in the greatest misery."

The inspector applied again to the Government, who referred and confirmed his reply of the previous year. Then the late Governor-General was again asked as to his share in the transaction, and this time the reply came quickly enough. He had never sent a political offender direct to St. Petersburg. Indeed, the great man could give this answer with great safety, in spite of his unreliable memory, for he had left political investigations always to the Law Courts.

When this answer came, the good Inspector was greatly moved. He at once petitioned the Court to liberate the prisoner, for though there was an accused criminal, there was no crime before them. But the Court demanded that the matter should be completely probed to the bottom and instituted fresh enquiries. But before these were concluded, the matter was cleared up.

The Governor came to St. Petersburg, where, meanwhile, his former Adjutant had been transferred also. The latter looked him up and asked for his good offices to obtain a higher post. The Governor promised it readily, and thought that with the assistance of the most influential Duchess of L—, it might be easily managed. He went to the great lady and recommended her his protégé. She promised her good offices in the most amiable manner, but her memory being as reliable as that of the Governor—weak—she asked with a slightly malicious smile, "Is it not the same gentleman who has procured me my model so nicely and promptly?"

"Certainly," exclaimed the Governor eagerly. "I had quite forgotten the matter. Have you painted the Jew? A splendid head! wasn't it?"

"No doubt, no doubt, but I have never seen him."

The Governor was quite taken aback with astonishment and dismay, and communicated the news to his protégé. The latter commenced his enquiry immediately and energetically; he wanted to convince his protectrix that he was innocent and had done his best. Already the next day he was able to tell the Governor the frightful news where the poor model was.

Both gentlemen went at once to the prison.

No doubt; there was the name in the list of prisoners. The chief jailer was fetched. "Let this man, Abraham Weinkaefer, be brought forth at once," was the excited order.

The jailer stood embarrassed.

"I beg pardon, Excellency, but that is impossible."

"Impossible! Why impossible?"

The man died two months ago. It was a wonder that he kept up so long. But he hoped and hoped.

The two gentlemen have provided liberally for the orphaned children. But the dead, even *they* could not bring to life again.

This is the story of Abraham Weinkaefer and his beard, and I do not know that I could find one word to add to it.

## THE RISE IN GAS BILLS.

BY AN OFFICIAL AUTHORITY.

(FROM "THE PALL MALL GAZETTE.")

ONE day last week one of our representatives waited by invitation upon the secretary of the Gas Light Company, at the headquarters of the gas world, in Horseferry-road, Westminster. He found this well-known "man of light and leading," as the secretary may with special emphasis be described, seated, with his characteristic business-like air, at his desk, and, as ever, genial, piquant, and communicative.

Assured he was right in his surmise that journalists are always troubled with a devouring anxiety to possess accurate information upon all subjects of public interest, the secretary said, "Well, I am desirous of offering to you an explanation of the rise in gas bills which is the subject of so much correspondence in the newspapers."

### THE COMPLAINTS MAINLY FROM A SINGLE DISTRICT.

"As has been well said, there has been an epidemic of complaints. But, taking all the complaints I have either received or read, I find that 99 per cent. of them come from the districts formerly served by the London Gas Company. In these districts are comprised Fulham, Chelsea, Brompton, Knightsbridge, and Pimlico; and also the area running from the Thames Embankment, across Holborn, and up the Tottenham-court-road, which includes Lincoln's Inn, Covent-garden, and Drury-Lane. As you know, the London Gas Company was only last midsummer amalgamated with the Gas Light and Coke Company.

"It is notorious that before the amalgamation the consumers in the district of the London Gas Company were inefficiently supplied. The London Company was the only Company in the Metropolis not working under modern parliamentary obligations as to pressure, &c. Not having gone to Parliament within recent years for increased powers, it had continued to work without parliamentary interference under the Metropolis Gas Act, 1860—illuminating standard, twelve candles; purity and pressure equally low; and no official tests of any kind applied. In short they gave what they liked, and up to 4s. 6d. per 1,000 feet they could charge pretty much what they liked. The methods of manufacture and their appliances for purification, &c. were below the standard of the present day. When we came into possession of the London Company's districts, under the amalgamation scheme, we had, of course, to supply the gas under the requirements of modern legislation, which included a material increase in pressure."

### THE SECRET—INCREASED PRESSURE, UNDER PENALTIES.

"Now, in years gone by, there was a great outcry throughout the length and breadth of London for an increase of pressure. 'We have not got gas enough,' was the general chorus. There was sufficient pressure after all the shops had been closed, but not enough (while a considerable pressure was necessary) while the offices and other places of business remained opened. A desire was manifested to give increased pressure; but that desire was not carried out with sufficient expedition to suit the public. So in 1868 an Act of Parliament was passed which, *inter alia*, placed the pressure within

the dictation of a new body, called the Metropolitan Gas Referees, who were given power to insist upon the companies brought within the compass of the Act supplying any degree of pressure which they might direct within the maximum. Still, we had representations of inadequacy made by the Metropolitan Board of Works, the City Corporation, and by local authorities, to the Board of Trade, and as a result subsequent legislation, brought down as late as 1880, has added to the amount of pressure, and increased our obligations to give it by imposing fresh penalties. Originally the pressure was to be taken at our works, or any other specifically appointed place; but under the Act passed in 1880 the local authorities may go and take it in any locality they please, in order to ascertain whether every customer is getting the proper parliamentary pressure. We must maintain a certain pressure during the day and another defined pressure at night, here, there, and everywhere, 'up hill and down dale,' else the authorities 'will know the reason why.' We are bound to maintain it under heavy penalties."

The return of illuminating power in the districts of the Gas Light Company for the week ending May 6 was as follows:—Notting-hill, 17.0 maximum, 16.8 minimum, and 16.9 mean; Camden, 17.1 maximum, 16.1 minimum, 16.5 mean; Dalston, 17.2 maximum, 16.5 minimum, 16.9 mean; Chelsea, 17.0 maximum, 16.4 minimum, 16.6 mean; Kingsland-road, 17.3 maximum, 16.6 minimum, 17.0 mean; Westminster (cannel gas), 21.7 maximum, 21.0 minimum 21.3 mean.

"Yes," resumed the secretary; "it is owing to the Gas Light Company, with its parliamentary obligations as to pressure, having taken over last midsummer the business of the London Gas Company, which was unburdened by these obligations, that the great cry as to increase in gas bills is mainly due; and you are also correct in the surmise that there has been the same outcry before whenever the business of an old company has been transferred to us. We cannot help it; it is not our fault. Whenever the Gas Light Company has been driven to seek parliamentary sanction for the raising of further capital, Parliament has taken the advantage of the opportunity to impose new conditions upon it; the companies unburdened by these conditions are those that have striven to get along without new capital, the companies which from their growing weakness in respect to capital gradually fall into our hands."

#### MORE PRESSURE, MORE PAY.

"It is really not to our benefit to give increased pressure. It is an axiom with gas managers that great pressure means loss and minimum pressure economy. For heavy pressure involves heavy leakage from the mains. A former engineer, long since dead, of this company, when a demand for increased pressure came from the public offices on an afternoon used to cry, 'don't give it them;' and if we had to please ourselves now, we should not give them high pressure. But we are bound to do it under a penalty of £10 a day for every defect whatever detected by the inspectors on behalf of the public. Of course, the public could not expect to receive for nothing all the advantages accruing from the parliamentary protection described. If they are provided with more gas, they must pay for it. Our friends in the London Gas Company's district had been accustomed to an ineffective supply, and it had been necessary for them, if they desired to get any light at all, to turn on all the taps full cock. The number of complaints from consumers in these districts, that they could not get a proper supply, were, we have ascertained, very large indeed. When the amalgamation took place we gave them the benefit of as full a supply as they chose to take; and a good light being to them as a new pleasure, they availed themselves of it without thought of to-morrow. It never occurred to them that the large illumination they were enjoying would have to be paid for. Making use of their taps, they can have as much or as little illumination as they choose, provided they are prepared to pay for it; but they cannot have a large amount of light and a very small bill."

#### ATTEND TO YOUR TAPS AND "GOVERNORS."

"What, then, is the protection against an involuntary consumption of gas in those districts into which the increased pressure has lately been introduced? Well, all the people who are complaining have got to do is to attend carefully to their taps and their burners. First, let them turn down the main cock at the meter; and if they want a surer remedy, let them apply a 'governor.' Next, let them turn down their taps at the burners; or if they are prepared to be at a little more expense, let them have little 'governors' fitted to the burners as well. This turning down of the taps will mean a material reduction in each quarter's gas bill. A deputation from the shopkeepers in the Theobald's-road district, which waited upon the directors the other day, being a reasonable and intelligent set of fellows, quickly recognised that as they were using a great deal more gas than they had ever used before they must pay for it, but as they were not in a position to take as much as they had unwittingly been taking, we agreed to send two or three of our inspectors into their neighbourhood to advise them as to their cocks, taps, &c. And that undertaking will apply to any district. Whenever we get a complaint of the kind, off goes an inspector at once."

#### BURNERS, LIKE BOOTS, WEAR OUT.

"The suggestion that air is blown through our pipes is so absurd that I disdain to give an answer to it. But there is much in the notion you mention that more attention may be given with advantage to burners. Take an ordinary burner. After you have kept it on for two years, you will very likely discover, if you were to examine it, that it has been completely worn out. The consumption of gas through the orifices so enlarges the size of the orifices that you get a largely increased consumption of gas, while the light at the same time suffers. Put in a new burner of the same make, you at once get a better light without the consumption of so much gas. When our boots begin to wear out, we replace them; but we never think of looking at the burners. As to the advantages or disadvantages of the patent burners, concerning which you ask me, Bray and Sugg will probably tell you that if you use their lava-topped or other patent burners you will not have to pay so much for gas. I don't know that anything material is attained in the direction of a reduction in the consumption of gas by their use, but there is a great improvement obtained in the light. You will certainly get a better light without increased cost by the use of these improved burners, but you cannot get it at less cost. If you give a proper attention to your taps, you ought not to pay more now for a given number of lights than you did ten years ago; indeed, you would pay less, as the difference is, between the price of 1874 and the present price, 3s. per 1,000 cubic feet. The public, however, should be put on their guard against a gang of fellows who are now going about selling for a shilling a piece trumpety burners not worth a penny, representing themselves as agents of this company. The company has no agents, it sells no burners at all, and its officers have no right inside any house, except to look at the meter. These fellows are swindlers, the expense of prosecuting and punishing whom we will cheerfully pay if the consumers on whom they attempt to impose will only give them into custody and appear to give evidence against them."

"I invited you here," concluded the secretary, "in order that I might assure the public through you that there is no reason for the outcry that has just been made, because they have got the remedy in their own hands. We have only done our strict duty under Act of Parliament, enforceable by heavy penalties. As for the future: some little attention to taps and burners, a stricter supervision of servants, and, generally, a little common-sense and a slight study of the question, will produce the desired result—a reduction in gas bills."

Mr. Robert Wilson, M.I.C.E., writes us in the same strain as Mr Phillips addressed our representative. He adds:—



#### HOW TO "THROTTLE THE PRESSURE."

"It is to one of these periodical increments of the pressure that the complaints of your correspondents are due. Moreover, as the pressure of gas increases about one-tenth of an inch for every ten feet of elevation, it follows that in order to supply gas at one inch pressure in a comparatively low-lying district the pressure must be about two inches in districts a hundred feet above this. In order to obtain the greatest illuminating effect from either canal or common gas it should not be burned at a pressure exceeding about eight-tenths of an inch. How, then, can the pressure be reduced from two inches or more to eight-tenths? By throttling the gas at the meter or at the burner, or at both. The throttling of the gas can best be done automatically by applying at the meter any of the half-dozen reliable gas governors or regulators that are in the market. Such a regulator should be adjusted to give a pressure at the ground floor of say seven-tenths in the basement, which would make the pressure about one inch at the top of a three-storied house. In houses where the gas is used also for cooking and heating a separate supply pipe without a regulator should be used for these purposes. In hotels and factories a gas regulator should be used on each story."

#### MONSTROUS GLOBES AND SUPPORTS.

"There still remains the question of the burner. I have for many years used burners of various sizes on the 'Broenner' principle, which throttle the gas again at their base. One of these burners consuming about five feet of gas an hour at eight-tenths pressure is quite sufficient to light a dining-room thirty feet by eighteen feet. It is fixed in the centre of the room on a three-light gaselier seven feet above the floor, and by the light it gives I can read the very smallest type in the *Pall Mall Gazette* in the furthest corner of the room, holding the paper at arm's length against the wall. Smaller burners consuming from 4 ft. to 2 ft. per hour are used for the bedrooms, kitchen, staircase, closets, &c. But it is useless having good burners, good gas, and the most efficient pressure if the usual monstrous globes and supports are retained. Globes may be roughly classed as 'saucer,' 'pine-apple,' 'barrel,' and 'spherical,' according to their shape. The two former should never be used. In using either of the two latter the opening below should never be less in diameter than the width of the flame, to ensure its steadiness. For a good sized burner consuming five feet an hour, this opening should not be less than about four inches in diameter. Even with good gas, burners, and globes, no table can be satisfactorily lighted if the globe is supported by a disc of metal or by any of those other contrivances for obstructing as much light as possible. Nothing but a thin triangle should be used, and it should be arranged to cast the least possible amount of shadow beneath."

### HOW STRIKES ARE MANAGED IN GERMANY.

THE well-known Sewing Machine Manufactory of Frister and Rossmann was closed for a number of weeks in consequence of a strike, which deserves to be commented upon from more than one point of view. We have obtained from Mr. Herman Loog, of 127 and 128, London Wall, their sole agent for Great Britain and the Colonies, the following particulars, which we think will interest our readers, and especially the numerous customers of the firm. It was generally believed that the 'people employed in this large factory were well paid and well treated; and from the periodical excursions arranged by Directors, not only for the 1,400 hands actually employed, but also for their families, as well as from general appearances it was thought that the relations between employer and employed were exceptionally happy. It was therefore a matter of great surprise, when, on the third of April, it became known that a strike had broken out among the workpeople of this factory, which

through its agency at 127 and 128, London Wall, is well known not only to the English trade, but also in many thousand English homes where the F. & R. machine has become a household word. On the third of April, a couple of hundred men, mostly Socialists, on being refused compliance with the ridiculous claims they had put forward, stormed the spacious workshop, and, armed with bludgeons, called upon the workpeople generally to take up the strike; those who refused were literally driven out by force.

For the next week or so, a few honest men who were anxious to continue their work were waylaid in the streets, and broken heads and bones soon reduced so considerably the number of those willing and anxious to continue their work, that at last the Directors closed the factory entirely, especially as they were unable to obtain from the German Government any protection for the safety of their honest workpeople.

Brute force reigned supreme, under the very eyes of the police; the streets in the neighbourhood of the factory were the scenes of daily and bloody battles. The rebels, thus positively winked at by the police, managed moreover to spread about the false report that the average wages amounted to less than twelve shillings per week, and were intended to be still further reduced by twenty per cent. The publication of these falsehoods and the connivance of the police soon brought together a committee for the collection of funds, to assist those on strike. In vain did the directors apply for the police protection. The German parliament was about to be asked to renew the socialistic laws; so, in high quarters it was evidently deemed desirable to nurse these dreadful disturbances for the purpose of being able to point them out, as the best proof for the necessity of these laws. For when that object had been obtained it was shown to be the easiest possible thing for the Berlin police to put down instantly the disgraceful uproars of the past weeks. In the meantime the Directors of Frister and Rossmann had invited the strike committee to inspect their wages accounts, when it was ascertained that the average wages for the last three years amounted to twenty-four shillings per week (of under sixty hours) per head; and let it be well understood, that this average includes several hundreds of labourers, boys and girls, at moderate wages, whilst it does not include the foremen. It was also conclusively shown that the intended reduction of wages was a mere myth. The strike committee, therefore, could not but admit that the strike itself was frivolous in the extreme, and they withdrew their assistance. Thus ended a most disastrous misunderstanding between employer and employed; a misunderstanding which, but for the unprincipled conduct of the German police authorities, would never have existed at all. By sending the ringleaders of this most mischievous affair to prison for three months, the German police cannot repair the wrong they have done to the families of some hundreds who would have worked, but for the reign *pro tem* of brute force. The factory is now again in full work, doing their best to dispose, as quickly as possible, of an accumulation of orders.

### Obituary.

WE much regret to have to announce to our readers the death of Mr. George Francis Bradbury, late of Crumpsall House, near Manchester, in his 57th year, which sad event occurred on the 8th of March, at Christ Church, New Zealand. Mr. Bradbury was the founder of the firm of Bradbury and Co., Limited, in Oldham, in the year 1852, and well known in this country as one of the fathers and pioneers of the Sewing Machine trade. He was greatly respected, and his loss will be deeply regretted by his family and by many friends.

## ART IN THE WORKSHOP.

*From the St. James's Gazette.*

THE Report of the Royal Commission on Technical Instruction is one of the most interesting and important Blue Books ever presented to Parliament. True, only the first two of five volumes have been published yet; but they contain matter of the highest value and utility.

It is not many months since Mr. Bernard Samuelson, the chairman of the Commission, speaking at Manchester, said that England still held her place in the forefront of the great industrial nations of the earth, and that "English workmen have now as good a chance of getting as sound a technical education as any workmen in the world." We showed at the time that this opinion was directly contradicted by facts well known to those who had studied the question at all; and we refer to it again because it appears to be a very prevalent opinion. Says the Commission (p. 506, Vol. I.): "Great as has been the progress of foreign countries, and keen as is their rivalry with us in many important branches, we have no hesitation in stating our conviction, which we believe to be shared by Continental manufacturers themselves, that, taking the state of the arts of construction and the staple manufactures as a whole, our people still maintain their position at the head of the industrial world." In a general way this is true, no doubt. But the report shows only too plainly that we are no longer so far ahead of other nations that we can afford to take things as easily as once we could; and there is a danger that the constant repetition of this dictum may induce satisfaction with a state of things which is not satisfactory at all.

For what do the facts prove? They prove that we are being robbed in detail of our industrial supremacy. That, without doubt, is the main teaching of this report, of which almost every page will be found to bear out what we say. The motive that seems to inspire the improvements so zealously urged in Continental industries is rivalry with England; and, in order the better to compete with us, the foreigner either imports English tools and machinery or alters his home-made machines in accordance with the newest English designs. In many foreign factories, indeed, the machines are not less excellent than ours; and it is pretty clear that the advantages this country has enjoyed in virtue of its superior appliances are in a fair way of extinction. In Chemnitz alone—a town of only 89,000 inhabitants—the Commissioners noted no fewer than fifty-nine factories for the construction of machinery. The Germans have reached a point at which they have but little to learn from us; whilst in most countries the adoption of English methods of organisation, combined with English machinery, is largely developing industries in which until recently we were monopolists. The Commissioners make a good many comparisons of a kind unfavourable to the prospects of this country, and amongst them is the cotton trade of Germany and Lancashire. They declare that "it is clear that our rivals have possessed themselves outwardly of all the advantages and excellences which have been the growth of English inventiveness and enterprise during the last generation. . . . The raw material, machinery, and appointments are equal in both cases." And this is repeated over and over again as regards other industries—not in Germany only, but in France, Italy, Switzerland, Austria, Belgium, and Holland. The result is that we are now affected by energetic competition in various markets abroad; whilst in some cases a state of things has grown up which is in the highest degree instructive. The Commissioners report, for instance, that nearly the whole of the products of the factories in Saxony are exported to England and America; and they "saw a large portmanteau which was being packed with a great variety of patterns containing hundreds of separate designs," which a traveller was "preparing to take with him to the London and Manchester markets." More than this, they were told that this particular firm buy worsted yarns and warps from Bradford, and cotton yarns from Manchester; pay carriage and import duty on these yarns

entering Germany; weave them into fancy goods; finish, make them up, and pay carriage back to London, Bradford, and Manchester, and there sell them. And, the report adds, "a very large proportion of the entire products of the establishment, even though the yarn comes from Bradford, are sold in England." Other instances we might quote; but for the moment these will suffice. They entirely confirm what we said on this subject a little while ago; and, coupled with the fact that some trades, such as those in aniline dyes and certain branches of the hosiery and glove industries, have been almost entirely transferred to the Continent, they show that our position "in the forefront of the industrial world" is threatened very seriously.

In saying this, we do not forget that much is being done in England for technical instruction; but not enough is being done. It should be remembered that in this matter the foreigner has advantages. In most Continental centres technical education has been going on for generations; and, whilst protective tariffs have enabled the foreigner to build up great industries on English lines, the practical application of art and science have received a far greater amount of attention abroad than at home. Here, undoubtedly, the foreigner has got the start of us; and it will be years before the reforms represented by the new Central Institution in Exhibition-road will tell with any substantial effect upon the industries of Great Britain. It is astonishing, in the face of the information set forth in the report of the Commission, that Mr. Samuelson should have said the British workmen have now as good a chance of getting a sound technical education as any workmen in the world. If that is so, the recommendations of the Commission are superfluous; but, as a matter of fact, they are neither unnecessary nor extravagant. We may offer some remarks upon them later on, perhaps; for the moment we content ourselves with noting that, though the Commission does not recommend any great departure from the lines on which we are at present proceeding, still the thorough adoption of their advice would work a revolution in the curriculum of our elementary schools. Until primary instruction in this country is made more practical, and until secondary technical schools have become far more widely established, it is idle to talk of the English workman competing on equal terms with his foreign rivals; and the sooner this truth is recognised, the better it will be for the nation. The conditions of industrial supremacy have changed. The advantages this country gained by its splendid machinery are fast becoming neutralised; and henceforth the winners in the race will be the people who can best apply to their industries a sound knowledge of the arts and sciences. In such knowledge the manufacturers and workmen of this country are comparatively deficient; and it is as certain as anything can be that, unless we recover lost ground, we shall sooner or later suffer severely.

[The Germans are winning their way to ascendancy in arts and manufactures, not by educating their workmen in technical schools, but by affording a first-class technical education to the foremen or proprietors of factories. This, coupled with the lower wages paid in Germany, cannot fail to make them most formidable competitors. There is no doubt that one of the reasons why German industry has not made the progress which it ought to have done, is that it was carried on chiefly by Joint Stock Companies. Now, unless a factory is managed just as a private proprietor would manage his business, it cannot prosper. This has been perceived, and we believe the error of managing a factory by a Board of Directors has been abandoned in many cases.]—*Editor.*

The report of the Nähmaschinen Fabrik (formerly Frister and Rossman) Actien Gesellschaft, for 1883, records a steady increase in sales and gratifying extension of agencies in various parts of the world. Owing, however, to certain new buildings and plant not having yet been completed, the manufacture of machines has been somewhat restricted, and a temporary decline of the dividend from 6 per cent. in 1882, to 4 per cent. in 1883, has been the result.



## Correspondence.

To the Editor of the "Sewing Machine Gazette."

240, Old Street, London.

May 28th, 1884.

Dear Sir,—I was much pleased to find by their letters in your last issue that both Messrs. Loog and Lohmann, as well as myself, had entered the lists in defence of the German manufactured Sewing Machine. However, I must again join issue with you in respect to your further statement, that the German manufacturers "have laid out themselves to make Sewing Machines chiefly for seamstresses and manufacturers where cheapness is the first consideration and of course great elegance of make and finish is mere surplusage." Now I well know you would not have made such a misleading statement unless you had been badly informed, and I would ask you in justice to those who have been misrepresented to pay a visit and inspect the machines manufactured by the firms represented respectively by Messrs. Loog and Lohmann, or I shall be much pleased to show you machines manufactured by Messrs Seidal and Naumann, of Dresden, and you will find the productions of any of these firms fully as well finished, whether as regards cabinet work, decoration, or the adaptation of all the most recent improvements in the working parts to any American or English machine in the market.

Respecting your refutation of the other parts of my letter, I will leave it to your readers to form their own conclusions. Thanking you for the hearing you have given us,

I remain, yours respectfully,

ALFRED CHILDS.

To the Editor of the "Sewing Machine Gazette."

May 26th, 1884.

DEAR SIR,—On page 13 of your April number you made observations respecting the German Sewing Machine Manufacture, which I am sorry to see repeated in your this month's number, on page 13.

Not only do I claim superior workmanship and finish for the machines made by Frister and Rossmann, whom I represent in England, but especially good taste as regards cabinet work and general outward appearance.

However correct your observations may be as regards other manufacturers in England and Germany, they are altogether wrong as regards the machines I sell; and if at any time you will but spare me an hour, I will convince you of the utter erroneousness of your observations, by showing you that all the largest leading houses doing specially a superior family trade, have for the last ten years preferred, and still continue to prefer to this present day, our machines to any others, and for the very quality which you erroneously say British and German machines do not possess.

If you will allow me to thank our numerous friends for the patience and consideration extended to us during the trial of our late strike, and to inform them that their orders will again receive our usual prompt attention, you will confer a favour on

Yours obediently,

HERMANN LOOG.

Sole Agent for Frister and Rossmann.

## TRADE NOTES.

We understand that all American companies, as well as all the leading English and German manufacturers in London, felt a great improvement in trade last month, which is continuing. The Wheeler and Wilson company find the sales of their new machines, Nos. 8 and 10, very good, and report that the prosperity which they have hitherto enjoyed is still with them. The Howe Machine Com-

pany have declared a dividend, which is payable in June. The company's agent states that their machine is still a favourite with the public.

The White Company report that their sales continue large and increasing, both wholesale and retail. Large orders have been received from France, Italy, Norway, Spain and Portugal, and several orders by telegraph are awaiting confirmation, to be taken in hand at once. The success of this company is due not only to the excellence of their machines, but also to the great energy and business qualification of their managers and agents. The company have upwards of 3,000 cases of machines on the way here. Their machine has just been awarded the Gold Medal at the exhibition at Nice.

Jones and Co., and Bradbury and Co., the chief manufacturers of English-made machines, have also been very busy and are increasing their trade. As the various models made by these companies are bright, attractive, and in manner meritorious, and withal somewhat cheaper to the dealers than their American originals, a certain trade may always be depended upon, but the recent push of the German companies makes the competition keen indeed. The machines of the latter are even more showy and attractive, and are, if anything, cheaper to the dealer.

## THE ORIENTAL BANK FAILURE.

FIFTEEN years ago this Bank had a position in India and China equal to what the Bank of England has in London. Its portals were only open to very wealthy people, and even such, when they entered the precincts of this noble establishment, were, or had to be impressed with the importance of this grand institution, and with their own littleness, or else a satisfactory intercourse was quite impossible. If they took your money, they did so with an air that gave you to understand what a great service they conferred on you. If you bought their bills, they were handed to you in a way which showed clearly that their promises to pay were worth more and were better than those of other people, and the splendour of their name and the lustre of their institution invested their paper with extraordinary importance.

The Directors and officers were all Scotchmen, and, with that peculiarity inherent in Scotchmen, which gives nothing good away except to people of their own nationality, no porter or office boy was engaged unless he was in some way connected with Scotchmen or Scotch women.

We need hardly say that the Bank was eminently prosperous. They paid 12 per cent. dividend to their shareholders for many years, had a large reserve, and, although the accounts rendered to their Shareholders were meagre in the extreme, the enthusiasm of the same at the half-yearly meeting knew no bounds, and their thanks to the Directors and Managers were cordial and grateful.

In an evil hour some of the Directors of the Oriental Bank became connected, also as Directors, with an institution called the Ceylon Company, whose business it is to lend money to planters on the security of their estates and plantations at very high interest. As the capital of that company was not nearly adequate to the business they did, they borrowed money largely from the Oriental Bank at an interest which left to both a handsome profit.

As long as these estates were in a flourishing condition and produced good crops, all went merrily. But the day came when the curtain fell on the prosperity of Ceylon planters, and a disease attacked the coffee trees and killed them. The production of coffee became less every year, the planters could pay no more interest, and at last the Ceylon Company, and with it the Oriental Bank, had to foreclose, and thus became the owners of worthless barren estates, and are so still.

Some of the Ceylon planters, when they saw that the growing of coffee was doomed, gave it up, and took to the planting of tea and chinchona, and, no doubt, will do well; but the *protégés* of the Bank

were, apparently, not of that recuperative spirit and elastic mind, or thought, perhaps, it was better to abandon their old estates to the mortgagees, and betake themselves to new fields which they could buy for much less than the amount of the mortgages on their own properties. At any rate, the Bank has remained the owners of unsaleable and unproductive estates. Now if it be remembered that the capital at the disposal of banks is entrusted to them mostly for short periods, and at calls which can be claimed back at any moment, the folly which invests such moneys for long periods, and runs the risks of the capital so invested remaining locked up, must be apparent to the duller intellect.

An attempt is now being made to throw the blame of these operations on the late Manager. But, as nothing was done without the concurrence of the Board, and, supposing even the late Manager had done all this at first without the approbation or against the consent of his Board, the bulk of these transactions were entered into long after the nature of these investments had become known to the Directors, and they are undeniably responsible for them.

Well, the end came, as everybody saw it would come. Some of the estates were forced off on an unwilling market at immense sacrifices. These losses and the lock-up of capital becoming known, the depositors clamoured for their money, and nobody would buy any more Bills, and in the end the Bank had to close their doors.

Not all of these insane operations were performed in Ceylon. A good many were done in Mauritius, where the Bank had a branch. And now the result is that the sum of £3,000,000, mostly the property of widows, officers, clergymen, and the usual herd of foolish investors, will be lost. The consequences are not quite so disastrous as in the case of the City of Glasgow Bank, as the Shareholders are only responsible for an amount of money equal to the shares held by them, in addition to their holdings, but it will be bitter enough to those on whom the calamity has fallen. In a great many cases the shareholders possess no further property, and will be actually reduced to the direst poverty. The immense complications and ramifications of the Bank's affairs render long and tedious litigation unavoidable, and promise to furnish abundance of employment to both liquidators and solicitors. Probably the expenses will not be far short of £150,000, and this century will hardly see the end of the liquidation. We remember too well the liquidation of the English Joint Stock Bank, the Bank of Hindustan, the Birmingham Bank, and other institutions of a similar character, and the case of the Oriental Bank will not be less tedious nor less expensive.

We cannot help expressing our great surprise and our indignation that Directors of important credit institutions plunge so often, and with their eyes wide open, the proprietors into the direst misery. There are men on that Board, and there have been men amongst the Directors, who, if they were called upon to do in their individual capacity, what they did for years past, when sitting round a green table with others, would indignantly refuse to do so, and condemn it loudly as alike against prudence and common-sense. How comes it, then, that the intelligence and foresight, and the sense of responsibility which accompanies private individuals in their actions, takes leave of them when they enter the Board-room, and reduces them to helplessness, and the institution, which they profess to guide, to ruin?

How is this to be remedied? Only by the Shareholders refusing to remain members of a company which does not give the fullest information to the Shareholders. Only by having Auditors who will not only see that there are vouchers for the money paid away or invested, but who will take care that such transactions, which we have named, are at once denounced and made public. By so exposing the Management, it will be done in time to prevent a flourishing institution from being shipwrecked, and its Shareholders from being ruined.

We place more faith in an efficient Audit than even a good Management. But until this is recognised, until good and honest

auditors are considered the backbone of any credit institution, we would advise no one to invest money in banks or kindred establishments. And Auditors should not only be called in every six months to look into the affairs of the Bank, but they should have the right to come whenever they choose, see every book, read the Minutes of Directors' Meetings, and peruse every letter. Only such a supervision will prevent catastrophes, and nothing less can give security to investors. That Auditors should be well paid for their services is a necessary consequence of the increased scope of their activity.

## THE COST OF VARIOUS MOTORS.

PROFESSOR FRAUENHOLZ, in Munich, has, in a lecture, compared the cost of the various motive powers per hour and per horse power; such a comparison is only of value if it is based on uniform facts, for only in such a case is it possible to arrive at a correct result. For instance, a Water Motor of 8 H.P. requires four times as much water as the same machine of 2 H.P., whilst in a steam engine this proportion is much more favourable to the latter. According to this compilation the expenses per working day of 10 hours, and for a machine of 2 H.P., amount as follows:—

				s.	d.
Steam engine of 2 H.P. ..	..	..	8	10	$\frac{3}{4}$
Caloric engine of Lehmann ..	..	..	5	4	
Gas engine of Otto ..	..	..	5	3	$\frac{3}{4}$
Water power ..	..	..	19	10	$\frac{1}{2}$

Professor Schottler has published a pamphlet, in which he also compares various motive powers of the same strength with one another. This has the great advantage over the former statement that all the various expenses are given separately, so that we can easily follow the figures, and see whether they are correct.

1. A portable steam engine of 2 H.P. costs £100. If we assume that repairs, wear and tear, and interest come to 12 per cent. of that amount, we find that this item costs actually to 9 $\frac{1}{2}$ d. Such an engine consumes 12 kilo. of coals per hour, which, at  $\frac{1}{4}$ d. per kilo., shows an expenditure for fuel in 10 hours of 2s. 6d. For attendance we take 1s. 6d. per day, for oil 4 $\frac{1}{2}$ d. Total, 5s. 2 $\frac{1}{2}$ d.

2. A caloric engine of 2 H.P. costs £180, for which we charge 15 per cent. for repairs, wear and tear, and interest, which is 1s. 9 $\frac{1}{2}$ d. If the engine consumes per hour 10 kilo. of coke at one-third of a penny per kilo., we get for 10 hours 2s. 9d. per day. For attendance we take 9d. per day, and for oil 6d. Total, 5s. 9 $\frac{1}{2}$ d.

3. A gas engine of 2 H.P. costs £130. A daily expenditure of 15 per cent. for repairs, wear and tear, and interest is 1s. 3 $\frac{1}{2}$ d. It requires hourly two cubic metres of gas, which costs 1s. 5d., and amounts to 3s. 2 $\frac{1}{2}$ d. per day. For attendance we will calculate 7d., and the same for oil. This will be a total of 5s. 8d.

4. A water motor of 2 H.P. costs £75. A proportionate expenditure of 10 per cent. for interest, wear and tear, and repairs costs daily 6d. With an effective force of 80 per cent. and 20-metre pressure we required 33.75 cubic-metre of water hourly. At  $\frac{3}{4}$ d. per cubic metre this amounts to 25s. per day. For attendance and oil we take 5d., which makes a total of 25s. 11d. per day.—*Gerberzeitung.*

[These figures, of course, are based on German prices for coal, wages, water, &c. Here they would be very different. In our next issue we will endeavour to put the results of these various machines according to English prices, &c.—*Editor.*]

At a Meeting of the Liverpool Chamber of Commerce on Wednesday, June 4th, a letter was read from the Mersey Dock and Harbour Board, intimating a reduction in the port charges on cotton, wool, rice, ores, iron, steel, and other metals, the total amounting to about £30,000 per annum, in addition to the diminution made three years ago amounting to £110,000 per annum.



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**THE HARDWARE TRADES' REVIEW.**

WE are glad to have to record a sensible improvement in the sewing machine trade, whether due to the warm and genial weather, or to increased prosperity of manufacturers, or to an extended use of sewing machines generally, it would be difficult to say. Probably a little of each of these causes is at the bottom of it, and the managers and agents of the various companies give more cheerful accounts of their doings. It is, however, certain that the sale of sewing machines to poor people on the hire and instalment principle is steadily on the increase, and has reached vast proportions. Of course the system is a very troublesome one and involves a vast amount of care and supervision, but it has become the rule in the trade, and in no other way could the same have become of its present importance. Whilst thousands of families are enabled to earn a livelihood by it which otherwise would be impossible, there are not a few unprincipled persons who abuse the benefits put within their reach in so easy a manner. Competition has reduced the instalments to a very small sum, and a strict supervision is both expensive and troublesome. Yet the system has not worked badly on the whole, and it is astonishing that there are so few complaints as to flagrant dishonesty, or losses from inability to keep up payment of instalments. Of course the arrangement is entirely kept up by canvassers and agents, and here again there is a great difference in the results. Whilst some companies

have a few agents who are very successful and do a good trade, others have a great number of agents who are mostly indifferent men of business.

We understand that the White Company have excellent canvassers, mostly Irishmen, who do as much as half-a-dozen other men. The agents are paid a small weekly salary, and a commission on the sales, which commission has much increased of late, and seems to get larger still, which is an objectionable feature. Of course the commission is *not* paid at once when the bargain is struck.

Hardly a County Court day passes without fifty or more people, mostly women, being summoned for the weekly hire of sewing machines. This shows at once the difficulty of the business. These women are mostly of the lowest class, who live with their families in one or two rooms, and have hardly any other property, so that if the hire instalments fall in arrear, the owner must be thankful to get his machine back, without the hire money, and all the worse for perhaps half-a-year's wear and tear taken out of it. Under these circumstances, it is certainly a great advantage that the law, as regards hired machines, illegally pawned, is so strict, and that any pawnbroker advancing money on a hired machine is bound to give it up to the rightful owner; were it not so, the business would have to be abandoned altogether. For a long time magistrates and County Court judges hesitated a good deal what to do where the lender had advanced money in good faith, but now the law is so clearly laid down that there is no further doubt on the subject. We all know the uncertainty of the law, and in County Courts the law is particularly so, and the clearest cases are given sometimes adverse to the party who felt quite sure of his verdict. Under the circumstances, owners of sewing machines would not add law risks to the ordinary business risk, were it not that these questions are now settled once for all; and, provided the owner can trace his machine, he is sure of getting it back. But to trace a machine when perhaps the hirer has changed his lodgings two or three times before the default is found out, is not an easy matter in a place like London. Altogether, those who lend sewing machines on hire, or sell on deferred payments, must have all their wits about them. The Singer Company differ in their system of management from other companies. They establish their branches at what they consider the best centres, and employ a sub-manager for each at a small salary and commission. The sub-managers are in turn under the control of a branch manager. The managers and sub-managers usually have to furnish a certain cash deposit, which is forfeited should the stipulations in the contract be evaded, one of which stipulations is that no one employed in the capacity of manager, or sub-manager, shall sell sewing machines of other makers for a period of six months after the contract is annulled or run out.

Our remarks about German sewing machines seem to have raised the ire of many gentlemen, who have, of course, completely misunderstood our remarks. There is

nothing derogatory in manufacturers making a second-class machine at a lower price. We never said that the Germans cannot make a first-class machine, nor meant such a thing. Whoever acts on such an opinion will find himself in a sorry plight, as the work which the Germans turn out, if they like, competes with that of every other nation successfully.

If our remarks have ventilated this subject thoroughly, and dispelled all doubts as to the quality and finish of German sewing machines, they will have done some good, and most good to the German makers themselves. Let our German friends make their minds easy. There is no prejudice in this country in favour of American machinery to their detriment. Good sewing machines at reasonable prices will be appreciated here very soon, if they are not so already.

## THE WATER RATE QUESTION.

*Continued.*

In our last two numbers we have given the statement of those who consider that the Dobbs judgment has effected a great revolution in the charge for water, and that the cost of the same has been, or will be considerably reduced.

Our opinion is quite different, and not only have the inhabitants of the metropolis not been benefited by Mr. Dobbs' action, but it will, for the present at any rate, lead to a most material increase in the rates for water charged by the companies.

Of course, we have not a word to say against Mr. Dobbs, who acted for the best, and was quite justified in disputing the demands of the Grand Junction Water Company, but it must not be forgotten that he acted on his own behalf only, and without any reference to the interests of the Ratepayers generally, and as it turned out, his suit has done no good to the ordinary Ratepayers who rent, but do not own their houses, which is the case with by far the great majority of Londoners.

In the first instance, the word actual or rateable value of a house is far from being a term understood to mean the same thing everywhere or under all circumstances. Rateable value is the amount on which the tenant of a house pays parish rates. But lately Mr. Hannay, the Magistrate of the Worship-street Police-court, in several actions brought by Ratepayers against the East London Water Works Company, has declined to accept the rateable value of houses, as *FIXED IN THE PARISH BOOKS*, as the true and actual value, and increased the same for water rate purposes, in one case by 25 per cent., and in another by  $2\frac{1}{2}$  per cent. only. But this difference is only one of degree, the fact being the same, namely, that the Magistrate has refused to accept the rateable value of a house, as fixed in the Parish Books, as the actual value of a house on which the water rate should be charged.

It is only fair to say that this anomaly has already excited the attention of some Members of Parliament, which of course will enable the water companies to set Dobbs' decision at naught, and compel every householder to fight for himself the battle of rates over again. And although Mr. Torrens' Bill, now before Parliament, does not meet the difficulty, Sir Chas. Dilke has signified his intention to introduce an amendment which will be satisfactory.

What is required is a short Act to amend the 45th section of the Valuation (Metropolis) Act of 1869, Subsection, which enumerates the following rates as coming under the Act: the County Rate, the Metropolitan Police Rate, the Church Rate, the Highway Rate, the Poor Rate, the Police, Sewers, Consolidated, and other Rates, in the City of



London; the Sewers, Lighting and General, and other Rates levied by order of District Boards or Vestries, the main drainage improvement and other rates and sums assessed on any part of the Metropolis by the Metropolitan Board of Works; assessments under the Metropolitan Poor Act, 1867, and every other rate, assessment, and contribution levied, made, and required in the Metropolis on the basis of value.

Now it is clear enough that if to the above is added "*the Metropolitan Water percentages*," the difficulty now besetting householders will be overcome without any trouble, and we hope that this useful, in fact indispensable, enactment will be carried this Session.

But even if this is done, the troubles of water consumers are by no means over.

Most Londoners are aware, at any rate those inhabitants who are supplied by the Grand Junction Water Company will know, that most householders did not pay water rate either on the gross nor actual value of houses as assessed in the Parish books, *but very much below it*. We do not believe that the Water Company were ever in ignorance of their rights to higher rates. Any how they never made use of them up to now. But this year all the water rates have been increased to the full extent allowed by the Dobbs judgment, and we have no doubt, that so far from the Water Companies suffering a loss by the Dobbs judgment of £240,000 a year, as has been stated, they have benefited to that extent by their late increase of rates. The writer of these lines has hitherto paid £4 10s. a year, and has been raised this year to £5 15s., an enormous increase, and we hear that most of our neighbours have been treated in the same way. Are we right or not if we say that the Dobbs judgment has benefited very few inhabitants of the Metropolis, but has been the reverse to most of them?

We think that the Grand Junction Water Company and any Company that act in a similar manner, are badly advised in thus pushing their rights to the extreme.

There can be no doubt that the water supply of London must soon be taken in hand by the Ratepayers, and, as soon as a Conservative Government comes into power, *with Sir R. Cross as Home Secretary*, (an event which every water consumer must hope is not far off, apart from politics, as Sir R. Cross and his late colleagues are the only people who have hitherto shown a desire to exert themselves in the matter), the question will be dealt with forthwith, and if the Water Companies persist in treating the inhabitants of the Metropolis without the slightest regard for equity and justice, they will in turn be dealt with, without much mercy being shown to them. After the passing of the Irish Land Act and Arrears Bill, no vested interests are safe from being shorn of a not inconsiderable portion of their legal rights in favor of some other class or interest, and if these Irish Acts are in any way defensible or excusable on public grounds, what can be said in favor of the Water Companies who persist in making four millions of people (nearly as much as the entire population of Ireland) pay twice as much for water as is right and just.

There can be not the slightest doubt that the late Government treated the Water Question properly, and the Bill providing for the purchase of the Water Properties, at 32 millions sterling, was not only a just and good measure, but one which secured the rights of all parties. This is proved amply by the fact that the Water Companies would not again consent to a sale for this sum, whilst the Ratepayers, the Corporation of the City, and the Metropolitan Board of Works would only be too glad to see the Bill passed. Poor Mr. E. T. Smith, brought to a premature grave by the contumely of ignorant scuffers, by the factious opposition of political charlatans, is amply avenged by the regrets bestowed on his Bill by the citizens whom he intended to benefit.

The question is now, what is to be done? If Londoners have to wait for cheap water until the Metropolitan Government Bill, as introduced by the present Ministry, is settled, and the new Corporation can deal with the Water Question, the present generation will most likely never get it.

It behoves, however, the Citizens, not to leave the matter in this way, but to take action themselves and to press for a solution of the difficulty. If every Parish appoints committees, supported by numerous and well-attended meetings of the Citizens, a Bill could easily be agreed upon, to be introduced next Session, and if Parliament saw the citizens of this Metropolis in good earnest, the next Session would not pass without a well-matured equitable scheme for the supply of water being engrafted on the statute books.

## BENSON'S PATENT HEM-STITCHING MACHINE.

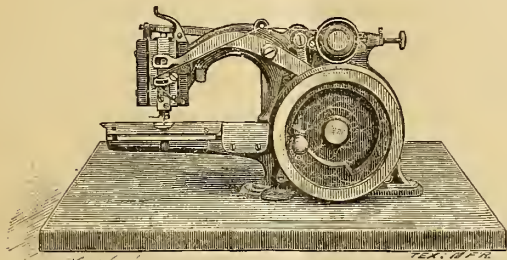
ALTHOUGH an enormous number of Sewing Machines are made in the United States particularly, but also in this country and on the Continent, it will be found that the variety is not so very large, and that a totally new departure is a rare event. The bulk of the machines made are used for sewing pure and simple, *i.e.*, hemming and stitching as required for sewing up articles of clothing. Then we have a branch of machines which are of the most ingenious nature, and which are devoted to the leather trades—boots, shoes, saddlery, &c. Then we have Sewing Machines adapted to straw work, to sacks, and various other specialities; and we have also one for making the peculiar stitch required in the glove trade. After this we have those machines which are applied to ornamental purposes, chief amongst which may be reckoned the "Bonnaz Embroiderer," and possibly in this class may be included a machine which is distinct from all others, and about which our article treats, *viz.*, "Benson's Patent Hem-stitching Machine."

Hem-stitching, although now a large trade, probably conveys no meaning whatever to many dealers in Sewing Machines; we therefore now explain that it is the technical name for a peculiar stitch used with handkerchiefs. It is known also as "veining," and is described by the French as the "daylight stitch." It is, in fact, an ingenious method of hemming a broad hem on handkerchiefs, and making the hem an ornament, and comes from France. Where the hem joins the body of the handkerchief, technically known as the "shire," a few threads are drawn out of the cloth; and, in stitching, three or more of these threads are caught up, tied up and gathered together in the course of hemming, so that a series of little holes is left, producing a very beautiful effect. As the cost of doing this by hand was large, it was only done on expensive handkerchiefs made of a fine cloth, and, as the demand was limited, a high price was charged, and the trade itself was only a small corner of the handkerchief trade. Some years ago, however, two or three people endeavoured to invent a machine to do this work, and more than one machine was brought out by various manufacturers of cambric handkerchiefs. In each case, however, the machine was jealously guarded and confined to each individual manufacturer, and the effect on the general trade was not appreciable. This state of affairs continued until Mr. Benson purchased a stock of machines and a small factory for producing this work. He, however, found that the existing machine was a clumsy one, costly to produce and to repair, and producing very little work. He therefore turned his attention to producing a machine which should overcome these difficulties, and, after a large expenditure of time and money, succeeded in doing so, threw out all the old machines, took out patents, extended his factory, and placed his machine for sale amongst the trade. The success which followed was very great, and for some time he was unable to supply the demand. He, however, arranged to produce the machine in large quantities, brought it to great perfection, and now at this present time of writing there are in the North of Ireland several factories, small and large, running with these machines, and they are largely in use on the Continent and in America.

The effect on the Hem-stitching trade has been extraordinary.

Hem-stitched handkerchiefs have supplanted the ordinary hemmed handkerchiefs, and although the production has been enhanced a thousand times, the demand is still pretty great—in fact, the quantity required is in excess of what can be produced, and it is estimated that in connection with this branch of industry probably 10,000 hands are employed in Ireland alone, most of them earning excellent wages.

We subjoin a sketch of the machine, which is simple in workman-



ship, and not difficult to keep up, though as the stitch is necessarily complicated, it is necessarily not so easy to work or to repair as an ordinary Sewing Machine. It is able to turn out from four to fifteen handkerchiefs in a day of ten hours, according to the size and fineness of the handkerchiefs and also the skill of the worker. The Machine can be quite easily run by treadle, though in large factories they are generally run by steam power.

## COOKERY RECIPES.

### STEWED SALMON, TO EAT COLD.

Take a few whole cloves, some ginger, pepper and salt, and some chopped parsley, and lay them in the bottom of your stew-pan, then put in your Salmon steaks, and pour over the liquor (half vinegar and half water), sufficient to skim over the top. Stew gently a quarter of an hour to twenty minutes.

### SMALL BAKED PUDDINGS (CASTLE PUDDINGS).

Weigh three eggs, the same weight of loaf sugar, flour and butter, beat the butter first, then the eggs, mix them well together, then add the sugar and flour, mix them very well, bake them either in cups or patty-pans, half filled, for three quarters of an hour. Serve with wine sauce.

### TO STEW POTATOES.

Boil the Potatoes, then slice them, mix some cream, butter and flour, a little chopped parsley, pepper and salt, let them boil, then put in the Potatoes.

### TO STEW LOBSTERS.

Pick the meat from the shell—mix some butter, milk and flour, with a little pepper, salt, nutmeg and mace, let them boil, then put in the Lobster and make it hot.

### ORANGE JELLY.

One oz. of Isinglass, dissolved in a pint of water, strain it, then add the juice of six oranges strained, sugar to your taste; dissolved in water and boiled to a syrup. Then mix all together, cut the oranges carefully in halves, and scoop out all the inside as clear as you can, then pour in your jelly, and let it stand until it is stiff, and then cut it in quarters.

## MONEY MARKET.

THE state of the Money Market calls for no particular observations, Money is cheap, and securities of all kinds, except American, are steady, and very little changed. We notice that an unusual number of small companies of recent creation are about to be wound up. We suppose most of them begun business with insufficient capital.

The Manchester Ship Canal has passed the Committee of the House of Lords, on the condition that they do not commence operations until a capital of five millions sterling is *bona fide* subscribed. As a patriotic undertaking the Manchester people may find the money, but as a commercial operation investors will hardly be tempted to subscribe. Of course the Liverpool dues and railway rates will be lowered, and the competition between rail and canal will be very keen. Perhaps an understanding between the Liverpool Harbour Board and Railway Companies on one side, and the Manchester shippers on the other, may be arrived at before all this money is expended to no purpose, except to enrich engineers and solicitors.

There is an internecine strife going on in two American Land Companies between shareholders and members. The American members seem to be anxious, as usual, for the entire control of the undertaking. Should this be carried out, we advise English shareholders to sell out. We are sure that the spectacle witnessed in New York between the Chairmen of several railways on the one hand, and the Bear clique of the Stock Exchange on the other, is so lamentable and so detrimental to the fortunes of these undertakings, that we can hardly think that people on this side will help to deliver the Companies in which they are interested to the tender mercies of American manipulators. We confess we never could understand how it is possible that English and German investors could entrust their money to the discretion of American Directors, and especially to those whose stocks are known to be speculative stocks, and which form the staple dealings on the New York Stock Exchange. The shares of good concerns never come to Europe at all. All those known on this side of the Atlantic are those which the ordinary American investors never look at. What is the *modus operandi* of the various parties? One set buys as many shares as they think is necessary to gain the controlling power of the line. When they have obtained it, the shares are manipulated in a hundred different ways to suit their interest. They increase the stock *ad libitum*; they declare dividends which have never been earned; they buy in enormous quantities, and they sell in the same way. Then the other party, opposed to the Directors, who believe they have detected a weak spot in the armour of the Company, sell shares without possessing them, and frighten real holders into selling, by a daily decline in the shares. This is the more difficult, and more perilous operation of the two. A buyer can buy so long as he has money to pay for them, but the seller may sell many more shares than there are existing, and if he is called on by his enemies to deliver, he is of course in a fix. This is called "cornering your enemy," and most fortunes have been made by this kind of game. As we showed in a former issue, the number of fortunes possessed by Stock Exchange operators in New York is very great, but, like Coleridge's Ancient Mariner,

Water, water everywhere,  
But not a drop to drink.

There is gold in millions in many a house in Wall street, but hardly an honestly made penny amongst it.

We cannot conceive the reason why European investors thrust their cash within the jaws of the lion, to enrich certain American manipulators, but, if they do so, they will most assuredly lose their money, and they have only to thank themselves for it. No man of ordinary intelligence will ever link his fortunes with those of the notorious speculators on the other side of the Atlantic, who are as much disliked there as they ought to be here.



**BRITISH INVESTMENTS IN NEW YORK.**—In a recent letter I gave an account of some of the large purchases made on British account of lands in the South and South-West. I am now in a position to mention some facts not generally known concerning the extent to which British capital is seeking investment in New York real estate. It was announced on Tuesday last that a syndicate of London capitalists had made efforts to purchase the entire block of property adjoining Trinity Church, on Broadway. This syndicate is said to have a fund of £5,208,334, which is to be expended in New York real-estate improvements. The Land is wanted to erect thereon a gigantic building in which brokers' and bankers' offices may be concentrated. A courtyard is to occupy the centre of the block, if it is built, supplying light and air to serried cells of the great financial hive. The amount involved in the purchase of the land and the buildings upon it would reach somewhere in the neighbourhood of £1,666,667. Although the property is owned by a number of persons, a union of interests was effected for the purpose of considering the proposals of the syndicate. There has been no success as yet in the negotiations, and the representative of the English capitalists has gone to London, but a communication is expected from him soon. A special effort was made to secure the property on the corner of Rector Street and Broadway. It has a frontage on Broadway of 82.6 feet, a depth of 219 feet, and frontage on New Church Street of 54 feet. "Nothing has yet been decided upon," said a real-estate dealer in whose hands the last piece of property is. "We refused an offer of £260,417, for the corner of Rector Street a few days ago." A prominent real-estate man said that the London syndicate had made an attempt to buy up a site on Wall Street, but found it impossible to secure enough land. Then an attempt was made to get possession of a frontage on Broadway, immediately adjoining Wall Street. This also failed for the same reason. "I tell you," said he, "if these Englishmen put up such a building as they talk of there will be a great war of rates between the big down-town office buildings. This influx of conservative British money to the New York real-estate market is one of the healthiest and most encouraging signs we can have of the real worth of metropolitan property as an investment. The men who form the London syndicate cannot get more than an average of 3 per cent. upon their money in any safe undertaking on the other side of the Atlantic, and they have brains enough to see what a rich field awaits them in New York, where real estate pays an income of 9 or 10 per cent." Another instance of the attention which English capitalists are paying to real estate in this city is the fact that a young Englishman, who recently erected a large flat-house in Twenty-fifth Street, has announced his intention of erecting another structure of the same kind soon.

## THE GERMAN IRON AND STEEL TRADE.

DUSSELDORF, MAY 5.

SINCE my last report the condition of the Westphalian iron and steel trade has altered to the extent that employment is more general, but no improvement in prices has taken place. All the works have plenty to do, and most of them for several months forward, but, with a few exceptions, prices remain as before, it being impossible to force an advance as yet. The cause of this is generally believed to be the bad condition of the foreign markets, especially that of the United Kingdom.

The prices of German iron ores are extremely low, in consequence of the keen competition with Spanish ores, which are imported now at a minimum freightage to the harbours of the Lower Rhine. The fact that the Westphalian coal-fields are situated so far from the ore-mines is the more acutely felt when the conditions of business are unfavourable.

The demand for bar iron has increased; the works in Silesia and on the Saar show a disposition to raise prices. Manufacturers of plates complain that they cannot sell their better qualities, and production has diminished sensibly. Bar iron is quoted at 115m., boiler-plates at 165m., second quality at 155m. to 160m., and Siegen sheets at 160m. to 165m. The improved demand for wire continues, but prices are low. Iron wire is sold at 120m. to 130m., according to quality, and Bessemer wire at 125m. to 130m. The wire-rollers, who formerly manufactured only iron-wire, are now using steel billets for more than half their production. The steelworks are, therefore, in a better position, owing to the increased demand for billets. The business in steel rails is quiet. Foreign consumers appear to be keeping back their orders in the face of the international rail combination. New basic steel plants are being built at the Phoenix Works, at Friedenshütte (Silesia), and at Dudlingen (Luxemburg). That at the Phoenix will shortly be started.

**NAHMASCHINEN-FABRIK (formerly Frister & Rossmann) AKT. GES.**—The report for 1883 records a steady increase in sales, and a gratifying extension of agencies in various parts of the world. Owing, however, to certain new buildings and plant not having yet been completed, the manufacture of machines has been somewhat restricted, and a temporary diminution of dividend, from 6 per cent. in 1882 to 4 per cent. in 1883, has resulted.

## METALLURGICAL INDUSTRIES OF AUSTRIA.

THE complete statistics of the iron and steel trades of Austria for 1883 have not yet been issued, but Mr. Jeans has been enabled to present sundry details, from which we compile a brief summary. In 1882 the quantity of iron ore raised from 70 mines was 902,510 tons, an increase of 45 per cent. on 1881. In the same year the make of pig iron was 435,478 tons, an increase of 55,739 tons. The imports of pig iron in 1882 were 92,923 tons and the exports 5,743 tons, thus leaving the home consumption at 522,658 tons. It is estimated that the production of Bessemer steel ingots in 1883 was about 160,000 tons, of which about 100,000 tons are believed to have been rolled into rails, and the balance into plates, &c., especially at the works Witkowitz and Kladno, where the basic process is being worked with much success. The total imports of iron and steel into Austria last year were 229,825 tons and the exports 43,151 tons. Of the imports 132,492 tons were pig iron (an increase of nearly 7,000 tons), 8,567 tons bar iron and steel (an increase of about 5,000 tons), 5,455 tons of rails (a growth of 1,000 tons), 4,479 tons general castings (an increase of 1,500 tons), 7,109 tons tubes (an augmentation of 2,600 tons), and 1,172 tons of scissors, augers, files, &c. (an increase of 500 tons). Amongst the imports were 50 tons steel pens, 139 tons locks, 48 tons needles, 236 tons nails, and 1,356 tons of iron and steel goods of special quality. The principal items of export were 5,556 tons pig iron, 11,924 tons bar iron and steel, 5,200 tons plates, sheets and wire, 2,922 tons sickles and implements, 179 tons wire tacks, &c., 587 tons scissors, augers, files, &c., 20 tons scrapers, &c., 12 tons locks, 1,124 tons nails, and 2,181 tons of iron and steel goods of special quality. Almost all these items show an increase over those for the year 1882.

**IRON AND STEEL PRODUCTION IN THE UNITED STATES.**—The American Iron and Steel Association reports that the production of pig iron in 1883 amounted to 5,146,972 tons, showing a decrease of 31,150 tons in comparison with the previous year's figures. The production of Bessemer steel rails amounted to 1,286,554 tons, the decrease being 152,601 tons; 7,762,737 kegs of nails and spikes were made, and 1,615,640 tons of ingots, both items showing an increase. The prices of pig iron decreased by about 16 per cent. during the year. At the close of the year 307 furnaces were working, and 376 were idle.

**LEEDS MANUFACTURED-IRON TRADE.**—During the past month no change occurred in the condition of the manufactured iron trade of Leeds, which continues to be very depressed. Sales are limited, and prices continue very low. The locomotive trade is steady. Engineers' tool-makers continue very quiet, and there is no improvement in the agricultural-machinery trade. Nail-makers have been steadily employed, without change in prices.

**STEEL-MAKING PLANT FOR SPAIN.**—The Sociedad de Altos Hornos de Hierro y Acero de Bilbao have just ordered from Tannett, Walker & Co., Leeds, a very large pair of compound engines for rolling steel rails, bars or angles, and girders of H section. The weight of these engines is 400 tons, the strongest ever made. Coal is dear in Bilbao, and therefore the greatest economy has to be used, and it has been found that the compound system in rolling, as in other work, requires a less number of boilers than the non-compound. Tannett, Walker & Co., are about to deliver the first instalment of the Bessemer machinery previously ordered for the same company in Bilbao. The centre crane weighs about 90 tons, and is made on Tannett, Walker & Co.'s balance-ram system. The whole plant will be one of the most substantial ever erected, and the valuable iron ores of Bilbao will soon be largely used on the spot, instead of being exported for manufacture elsewhere.

**IRON AND STEEL IN SWEDEN.**—The returns of the British Iron Trade Association as to the iron and steel trades of Sweden deal with the year 1882 only, the figures for 1883 not having been ascertained as yet. In 1882, then, the output of iron ore in Sweden was 878,637 tons, against 812,000 tons in the previous year. The quantity of pig iron produced was 391,000 tons, as compared with 426,000 tons in 1881. There were 135 blast furnaces at work, yielding an average of 2,113 tons of pig iron in the year. Of bar and rod iron the production was 254,300 tons, against 242,000 tons in 1881, or an increase of 11,900 tons. By the Bessemer process 46,603 tons were made from 30 converters (or 1,553 tons per converter), as against 38,500 tons in 1881 from 28 converters (showing an average of 1,403 tons per converter). Of the 254,300 tons of bar and rod iron manufactured, 122,920 tons, or about 50 per cent., came to England for use here or for re-export to other countries. There also came to the United Kingdom 36,568 tons of pig and puddled iron, 1,282 tons of scrap, 2,110 tons of unwrought steel, and 26,143 tons of iron and steel not especially classified, the total tonnage being 180,023, and the aggregate value £1,861,668.

**STOPPAGE OF LEAD MINES IN SHROPSHIRE.**—Widespread distress has been caused in the Southern Division of Shropshire by the sudden stoppage of the largest lead-mines in the kingdom—those belonging to Tankerville Great Consols Mining Company. For some time—owing to the low prices of lead ore—6l. 8s. per ton—the expenditure has been greatly in excess of the income. At the close of last week, when two months' pay was owing, it was announced by Captain Waters that he was unable to pay the men. In consequence of non-payment the mines are closed, and 400 employes are thrown out. Many families are on the verge of absolute starvation, and the provision shops where they have hitherto obtained credit are in many instances closed against them.

#### THE COPPER MARKET.

In view of the controversy which has lately been carried on as to the probabilities of copper, and the divergent views expressed in that respect, it may be useful to direct particular attention to certain facts and figures relating to the Rio Tinto Company. The report of the directors of the Company states that sales have been made for 1885 and onwards of nearly 400,000 tons of pyrites annually, the largest sales previously having been 288,000 tons in 1883. These contracts are for three years for England, and for five and six years for the Continent.

## PATENTS.

*The following list has been compiled expressly for this Journal by Mr. G. F. Redfern, Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.*

### APPLICATIONS FOR LETTERS PATENT.

- No. 6294. C. H. R. Holdcroft, of Wolverhampton, and R. Taylor, of Leeds, for improvements in apparatus for increasing the driving power of tricycles. Dated April 12, 1884.
- „ 6298. J. Aldersley, of New York, United States, for improvements in gas stoves. Dated April 12, 1884.
- „ 6333. W. Smeaton, of Southampton-buildings, Holborn, London, for improvements in water waste preventers. Dated April 12, 1884.
- „ 6375. J. Lamers, of Solingen, Germany, for improvements in combined pocket tools. Dated April 15, 1884.
- „ 6387. H. A. Dufrené, a communication from A. Esperon, of Issore, France, for improvements in stoves. Dated April 15, 1884.
- „ 6390. A. M. Clark, a communication from H. C. Keeler, of Ogden, Utah, United States, for improvements in weighing scales. Dated April 15, 1884.
- „ 6394. E. Tomlinson, of Holborn Viaduct, London, for improvements in fireplaces. Dated April 15, 1884.
- „ 6397. B. H. Stokes, of Selly Oak, Worcestershire, for an improved contrivance to facilitate the propelling of bicycles and tricycles. Dated April 16, 1884.
- „ 6411. J. Russell, of Reading, for improvements in gas stoves. Dated April 16, 1884.
- „ 6429. E. Edwards, a communication from A. Boesken, of Liegnitz, Germany, for improvements in knitting machines. Dated April 16, 1884.
- „ 6440. J. Everard, of Sparkbrook, near Birmingham, for improvements in window sash fasteners. Dated April 17, 1884.
- 6448. J. T. B. Bennett, of Birmingham, for improvements in sash fasteners. Dated April 17, 1884.
- „ 6456. F. W. Brock, of Bristol, for improvements in nipples or spouts for cans or bottles, for containing oils, or other fluids, for lubricating or other purposes, more especially applicable to pocket cans for the use of cyclists and others. Dated April 17, 1884.
- „ 6469. T. R. Paxton, of Workington, Cumberland, for improvements in velocipedes. Dated April 17, 1884.
- „ 6474. A. J. Boulton, a communication from L. W. Whipple, of New York, United States, for improved needles for sewing machines. Dated April 17, 1884.
- „ 6486. W. H. Richards, of Birmingham, for improvements in screw hooks, cup hooks, hat, coat, and wardrobe hooks, venetian blind hooks, lamp hooks, and other hooks of like manufacture. Dated April 18, 1884.
- „ 6498. R. Jackson, of New Wortley, Leeds, for improvements in apparatus for heating and cooking food, to be also used for carrying food. Dated April 18, 1884.
- „ 6538. S. C. Emery, of Erdington, Warwickshire, for improvements in the manufacture of stair rod eyes or fasteners. Dated April 19, 1884.
- „ 6541. W. Ablett, of Penn-road Villas, Holloway, London for quickly and securely suspending curtains or other textile fabrics, by means of a newly contrived hook. Dated April 19, 1884.
- „ 6567. H. Poths, of Walthamstow, for an improved apparatus



- for warming or keeping warm food for or in feeding bottles and the like. Dated April 19, 1884.
- No. 6587. R. Paffrath, of Soligen, Germany, for improvements in knives. Dated April 19, 1884.
- „ 6601. E. Nowill, of West Dulwich, Surrey, for a mode of fastening knife blades to handles. Dated April 21, 1884.
- „ 6614. H. Pataky, a communication from H. Hempel, of Leipzig, Germany, for a new or improved fire grate. Dated April 21, 1884.
- „ 6656. J. Wetter, a communication from A. M. L. Mathioly, of L'Isle en Jourdain, France, for improvements in grates for cooking purposes. Dated April 22, 1884.
- „ 6668. D. H. S. Brown, of Huggin-lane, Queen Victoria-street, London, for an improved portable apparatus for preparing infusions of coffee, tea, and other vegetable substances. Dated April 22, 1884.
- „ 6670. W. R. Lake, a communication from W. Scott, of Malden, Massachusetts, United States, for improvements in and relating to valves, chiefly designed for water closet and other tanks. Dated April 22, 1884.
- „ 6691. F. W. Hagen, of Kingston-upon-Hull, for an improvement in water closet basins. Dated April 23, 1884.
- „ 6705. A. Fiddes, of Bristol, for an improved construction of frames for bicycles. Dated April 23, 1884.
- „ 6715. C. K. Welch, of Tottenham, London, for improvements in bicycles, tricycles, and other velocipedes. Dated April 23, 1884.
- „ 6727. G. Clutterbuck, of Peckham, Surrey, for improvements in water waste preventers and other apparatus for regulating the supply of water and other liquids. Dated April 23, 1884.
- „ 6766. R. S. Wheels, of Coventry, for improvements in or connected with tricycles and other analogous articles. Dated April 24, 1884.
- „ 6771. A. B. Smith and S. Pattee, both of San Francisco, United States, for improvements in sewing machines for stitching carpets, sail cloth, and like heavy work. Dated April 24, 1884.
- „ 6785. J. H. King, of Liverpool, for improvements in keys and in appliances for assisting in using the same. Dated April 25, 1884.
- „ 6798. J. B. O'Callagan, of Parliament-street, London, for the improvement of the fastenings now in use for window sashes and casements, &c. Dated April 25, 1884.
- „ 6813. H. S. Brown, of Stockwell-green, London, for causing bicycles to stand alone. Dated April 25, 1884.
- „ 6814. W. A. Barlow, a communication from F. L. Eckendoerffer, of Paris, for improvements in removable handles or long-arms for brushes or dusters and the like. Dated April 25, 1884.
- „ 6817. H. Westman, of Birmingham, for improved means applicable to domestic open fire-grates, for the better combustion of fuel and prevention of smoke, for increasing the temperature of rooms, and for making them less draughty. Dated April 25, 1884.
- „ 6839. J. E. Dixon, of Nottingham, for improvements in driving gear for bicycles. Dated April 26, 1884.
- „ 6845. J. G. Jones, of Manchester, for improvements in apparatus for steering perambulators, bath chairs, &c. Dated April 26, 1884.
- „ 6878. A. M. Clark, a communication from L. A. Roux, of Courbevoie, near Paris, for improvements in knitting machines. Dated August 26, 1884.
- No. 6884. R. Marygold, of Oxford, for a double driving wheel tricycle. Dated April 28, 1884.
- „ 6888. W. B. Carr, of Eastbourne, for a stationary safety-brake for perambulators, or any carriage or vehicle. Dated April 28, 1884.
- „ 6901. A. C. Henderson, of Museum-street, London, and F. N. Cookson, of Wolverhampton, for improvements in tricycles. Dated April 28, 1884.
- „ 6903. W. E. Hurrell, of Ivy-lane, Hoxton, for an improved differential driving gear for tricycles whose driving wheels are mounted on independent stud axes. Dated April 28, 1884.
- „ 6919. J. C. Kent, of Bedford, for an improved water-closet disinfecting apparatus. Dated April 28, 1884.
- „ 6922. B. Sawdon, of Kingston-upon-Hull, for improvements in lamps for burning paraffin and other oils. Dated April 28, 1884.
- „ 6923. A. Perkins, of Uxbridge-road, Shepherd's Bush, London, for an improvement connected with register stoves and other fire-grates, for the better prevention of fire in dwelling-houses and other buildings. Dated April 28, 1884.
- „ 6925. R. Hartshorne, of Birmingham, for the production of a small, light, useful, compact, economical candle lamp for railway travelling and other purposes. Dated April 29, 1884.
- „ 6958. A. Steenberg, a communication from J. P. Gowers and P. H. P. Petersen, both of Viborg, Denmark, for improvements in petroleum cooking apparatus. Dated April 29, 1884.
- „ 6960. A. Overfield, of Leeds, Staffordshire, for improvements in door locks or latches, and the knobs or handles therefor. Dated April 29, 1884.
- „ 6998. C. V. Boys, of Dorset-square, Regent's Park, London, for improved driving gear suitable for velocipedes or other machinery. Dated April 30, 1884.
- „ 7005. T. Bradford, of Salford, for improvements in apparatus for washing, boiling, and rinsing clothes and other fabrics. Dated April 30, 1884.
- „ 7017. H. L. Wilson and J. Clegg, both of Clayton-le-Moors, Lancashire, for improvements in the manufacture of end frames for washing, wringing, and mangling machines. Dated April 30, 1884.
- „ 7026. E. R. Wethered, of Woolwich, Kent, for improvements in locks and latches. Dated April 30, 1884.
- „ 7042. W. H. Goldsmith, of Hull, for an improved attachment for gas brackets, lamps, and the like, for heating purposes, and process of manufacturing the same. Dated April 30, 1884.
- „ 7055. M. Syer, of Rye-lane, Peckham, London, for improvements in pneumatic flushing apparatus. Dated April 30, 1884.
- „ 7080. H. Usher, of Vauxhall Bridge-road, London, for improvements in velocipedes. Dated May 1, 1884.
- „ 7099. J. Wetter, a communication from R. Otto, of Planen, Saxony, for a new or improved festooning attachment for sewing machines. Dated May 1, 1884.
- „ 7121. S. Siddaway, of West Bromwich, for improved gas burners for heating and boiling purposes. Dated May 2, 1884.
- „ 7125. F. Brown, of Luton, for improvements in stove-grates or fireplaces. Dated May 2, 1884.
- „ 7141. A. V. Brooks, of Glastonbury, Somersetshire, for im-

- improvements in register grates. Dated May 2, 1884.
- No. 7142. G. Schadler, of Stockwell, London, for improvements in tricycles. Dated May 2, 1884.
- " 7144. G. Wright, of West Kensington, London, for improvements in stove-grates or fire-places. Dated May 2, 1884.
- " 7182. E. Morgenroth, of Berlin, for improvements in scales. Dated May 3, 1884.
- " 7196. D. N. Sacker, a communication from S. E. Weisblat, of St. Petersburg, Russia, for improvements in locks. Dated May 3, 1884.
- " 7224. F. N. Cookson, of Wolverhampton, for improvements in hemmers of sewing machines. Dated May 5, 1884.
- " 7227. S. M. Smith, of Steventon, Berkshire, for an improved tea or coffee-pot. Dated May 5, 1884.
- " 7250. C. Kleyer, of Frankfort-on-Maine, Germany, for a ball bearing. Dated May 5, 1884.
- " 7252. W. H. Thompson, of Finsbury Circus, London, for improvements in the arrangement and construction of rowing velocipedes. Dated May 5, 1884.
- " 7273. H. G. Allison, a communication from R. G. Vassar, of New York, United States, for improvements in door bolts. Dated May 6, 1884.
- " 7295. G. J. Hills, of Twyford, Berkshire, for an improved tricycle. Dated May 6, 1884.
- " 7301. W. Barnwell, of Coventry, for an improved seat for velocipedes. Dated May 6, 1884.
- " 7319. W. B. Ollis, of Great Yarmouth, for a combined case-ment stay and fastener. Dated May 6, 1884.
- " 7330. J. Smith, of Bradford, for improvements in knitting machines. Dated May 6, 1884.
- " 7355. W. J. Spurrier, of Moseley, Worcestershire, and C. N. Baker, of Birmingham, for improvements in tricycles and other velocipedes. Dated May 7, 1884.
- " 7356. E. Lofts, of Cambridge, for improvements in fire-places or stoves. Dated May 7, 1884.
- " 7382. P. Gibier, of St. Marcel, France, for improvements in the construction of tricycles. Dated May 7, 1884.
- " 7392. J. H. Lynde, of Manchester, for improvements in washing machines. Dated May 8, 1884.
- " 7393. J. Johnson, of Seedley, near Manchester, for improvements in the construction of tricycles. Dated May 8, 1884.
- " 7394. J. Whitehouse, of Birmingham, for improvements in bicycle saddles. Dated May 8, 1884.
- " 7416. M. H. Pearson, of Leeds, for improvements in washing machines. Dated May 8, 1884.
- " 7419. C. Mackintosh, of Leicester, and W. R. Richards, of Leicester, for an improved hinge. Dated May 8, 1884.
- " 7431. G. Grisel, of North Oaklands, California, United States, for improvements in sewing machines for stitching carpets, sail cloth, and other like material. Dated May 8, 1884.
- " 7444. J. H. Johnson, a communication from W. Deckert and E. Homolka, of Vienna, for improvements in electrical apparatus for lighting gas or other lamps, or the like. Dated May 8, 1884.

- No. 5041. W. R. Lake, a communication from C. M. Banks and S. John W. Mintzner, both of Philadelphia, United States. Dated October 23, 1883.
- " 5102. G. Davies, a communication from F. Jackson, of San Francisco, California, United States, for improvements in the construction of stoves, ranges, ovens, and other appliances for cooking. Dated October 27, 1883.
- " 5225. W. V. Thompson, a communication from C. E. Duryea of Saint Louis, Missouri, United States, for improvements in spring seats or saddles applicable for bicycles, tricycles, and other wheeled vehicles. Dated November 3, 1883.
- " 5612. E. R. Settle, of Coventry, for improvements in tricycles. Dated December 3, 1883.
- " 249. C. F. Hall, of Chalk Farm, London, for an improved sliding flush bolt. Dated January 1, 1884.
- " 621. R. J. Urquhart, of Manchester, for improvements in steam washing machines. Dated January 4, 1884.
- " 1061. J. Fagan, of Skipton, Yorkshire, for improvements in water closets. Dated January 9, 1884.
- " 1307. C. Dean, of Willenhall, for improvements in padlocks. Dated January 12, 1884.
- " 1630. T. Saunders, of Birmingham, and T. Stubbs, of Stockwell, London, for improvements in window fasteners. Dated January 12, 1884.

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" 4533. B. Wesselmann, locks	..	..	0 6
" 4641. G. G. Williams, construction of water closet basins	..	..	0 6
" 4671. H. Serrell, alarm bell for bicycles	..	..	0 6
" 5875. R. H. Brandon, button attaching sewing machines	..	..	0 6

## Letters Patent have been issued for the following:

- No. 4995. W. H. Parkin and D. Davis, of Blackman-street, London, for improvements in velocipedes. Dated October. 20, 1883.



1884.

No. 70.	J. Robson, improvements in double-folding s. d.	
	perambulators .. .. .	o 6
" 721.	J. A. Stephan, propelling cycles .. ..	o 4
" 1408.	J. Griffiths, washing and wringing machine ..	o 4
" 2392.	W. A. E. Sacks and J. Gilfillan, the arrange- ment of the driving wheels of velocipedes..	o 4
" 3237.	W. Singer and F. H. Flinterleitner, folding car- riages for children .. .. .	o 4
" 3595.	A. J. Boulton, sewing machine shuttles ..	o 4
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" 3819.	J. Ludlow, roses of watering cans; also appli- cable to other similar purposes .. ..	o 4
" 4141.	R. B. Santon, heating smoothing irons ..	o 4
" 4305.	A. Emanuel, water closet .. ..	o 4
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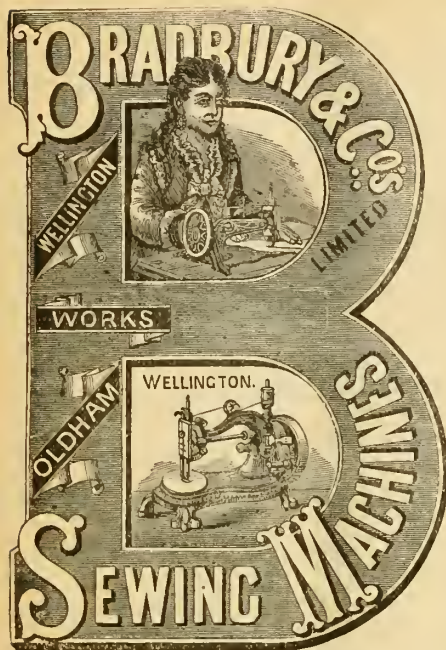
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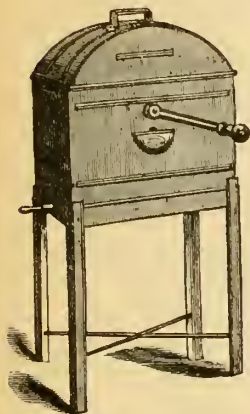
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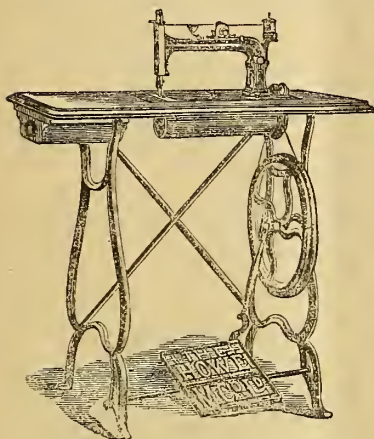
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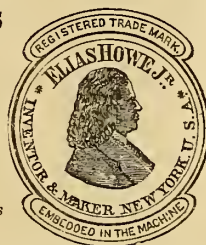
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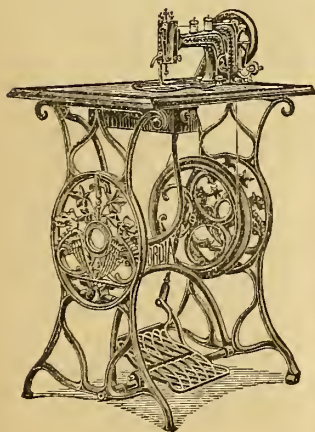
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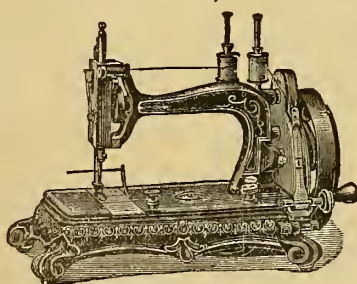
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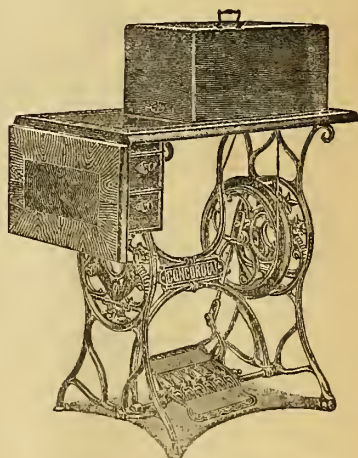
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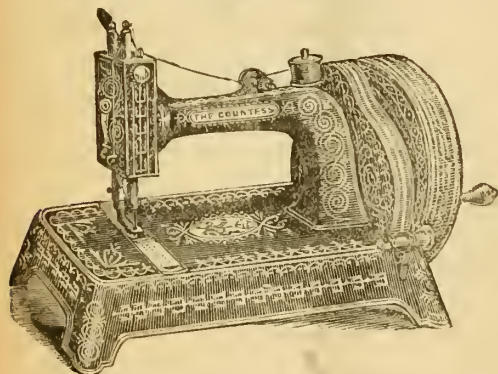
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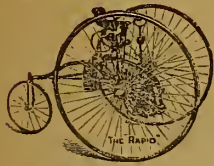
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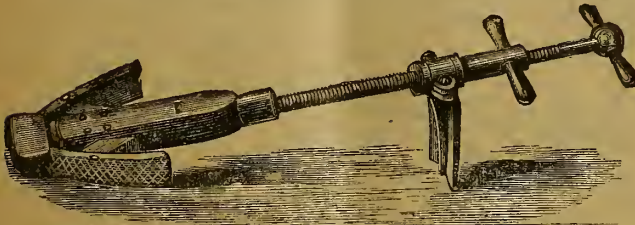
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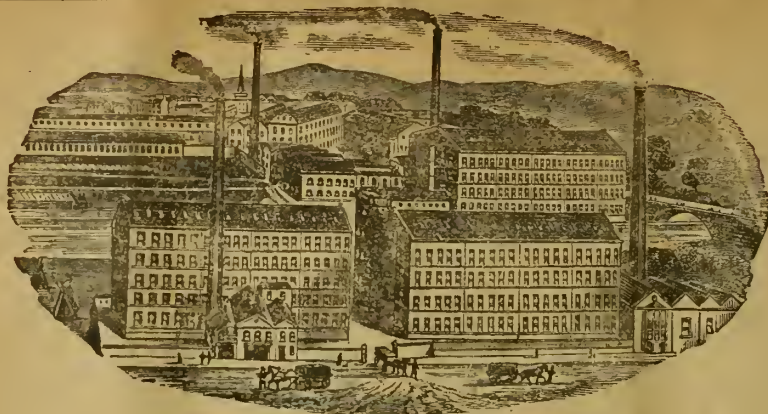
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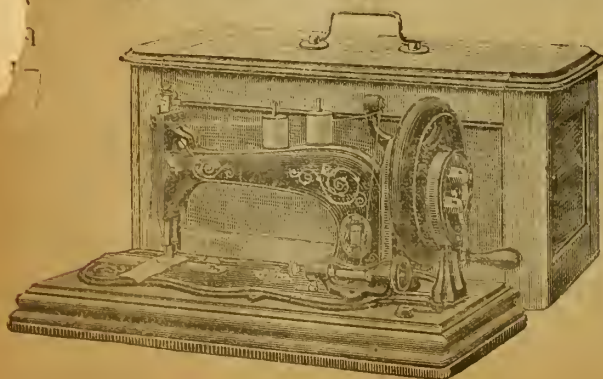
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Signed \_\_\_\_\_

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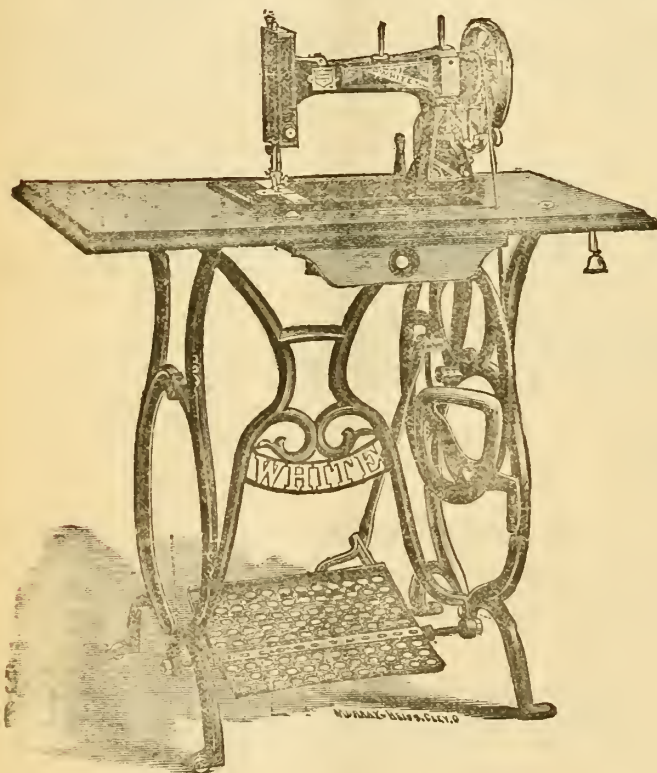
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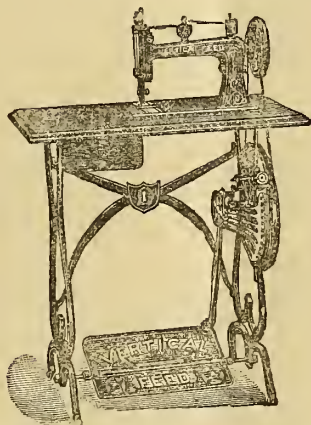
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**THE HARDWARE TRADES' REVIEW.**

**SEWING MACHINES.**

**O**UR columns contain to-day important information as to Sewing Machines in this country and elsewhere. It will be seen that the spirit of improvement in sewing machines is as restless as ever, and every day brings some novelty in construction or design. Such activity cannot fail to open new channels for the application of the machine, which is a thing we look forward to in order that the present activity of the manufacturers of sewing machines may be maintained and extended. It is impossible to foresee what this extended use may be, but there cannot be any doubt that increased speed without a proportionate wear and tear, and noiseless working, will soon lead to this result, and bring ample reward to those who help to accomplish it.

We hear that sewing machine manufacturers are well employed and, although prices are low, they make fair profits. In America competition is very keen. There we have gigantic establishments, and every year still larger ones are erected, which bring the out-turn to a heavy total. In this country, too, manufacturers do



their best to keep pace with foreign work, and they manage to hold their own in the face of all competition.

The Germans, although foreign imports into their country continue, have directed much energy and work towards opening foreign markets for their machines, and, we learn, with encouraging results. We regret to hear that strikes—those baneful scourges of industry—have found their way thither, and threaten to work mischief, although we do not doubt that the Government is strong enough to stop any excess, if so disposed.

Italy, Spain, South America, and Mexico have lately purchased large amounts of sewing machines. Although wages are there very low, it has been found that the sewing machine can successfully compete in those countries with hand labour. We have especially encouraging reports from Italy. That country is making gigantic strides in material prosperity. Their agriculture is progressing amazingly. The culture of the vine, which used to be most neglected and carried on in any sort of way, is now engaging the attention of the best people, and will in time be a source of wealth to Italy. But also in manufactures that country is up and doing. Since the Gothard Railway is finished, the intercourse between Germany and Italy has been immense. The Italians are sending whole trains full of provisions, fruit, vegetables, poultry, &c., to Germany, and receive in return iron, coal, and machinery, to the damage and detriment of other countries. There can be no doubt that England has lost its hold on the Mediterranean countries. Formerly we were the manufacturers—the purveyors of goods of all kinds. Now we are so no longer. We trust that this will not continue, but that our people will see the necessity of further and greater exertions, and not lose our name or *prestige*, the inheritance of many years' labour. We do not doubt that what Italy requires in sewing machines comes from Germany.

## Correspondence.

### OUR NEW YORK LETTER.

To the Editor of the "Journal of Domestic Appliances and Sewing Machine Gazette."

NEW YORK CITY, U.S.A.  
May 31, 1884.

DEAR SIR,—To come to the point, minus circumlocution, I have much to say to you and your readers, though somewhat hampered in regard to the amount of space I may be allowed to occupy; therefore will be as brief as possible on the points I think it judicious to offer to you and the sewing machine people of England. If you will kindly remember, I closed my last with just a remark in regard to the new "Love" machine, long promised to the American trade. It is now being pushed to the front, and, as you have paid so high a compliment to the U.S. as the natural home of the sewing machine in your late issue, I fail to see that I shall offend any rule by giving you some two or three points of advantage this latest of Yankee inventions offers to the world, and of which I send you the best published picture I could procure.

### THE "LOVE."

Now, in the language of a critic: It may be nothing of consequence against the major number of alleged inventions lately brought out to say that they rarely embodied a new principle of any permanent advantage, coming into the world as they did as mere improvements or modifications of those principles of motion and utility already in vogue, with just the possibility of a convenience of some kind added thereto. But in this new offspring of man's ingenuity I seem to see a great deviation from the old, old beaten track of both American and European makers, the "Love" manufacturers making their best bow to the public with a machine that combines, with previously known elements of utility, *three new important features never before embodied in the working action of a sewing machine; viz.:*—

1. The making of button holes on the face-plate without the use of any attachment.
2. An adaptation to use two needles at the same time for a double stitch seam; and,
3. A comfortable ability for making a single or double zigzag stitch for ornamental work.

These three points, added to the high arm style, offers to the world a combination which, if properly protected, must carry the "Love" forward to take front place and precedence among its sister mechanisms of the age; because the triple form of work can all be done without the employment of intricate attachments, so often annoying to the novice striving to become familiar with their usage, and the means for accomplishing the three pieces of work are enumerated on a part of the mechanism itself, the simple movement of a finger on a lever being all that is necessary to change the work from plain sewing to button-hole making, or to the zigzag ornamental stitching.

Now, without attempting to infringe upon the inventor's rights, I think I might venture to state briefly the adaptability of this machine, for its great usefulness is due to the action of the needle in a new relation with the needle bar in its activity with the needle clamp; that is to say, in the use of the machine for button holes, or zigzag work, the lever which causes vibration is brought into close contact with a new device placed in the face-plate, which is so contrived that it moves the needle alternately to each side; a special throat-plate and foot being used for the purpose, which is also made to meet the requirement for double stitching; otherwise, no change is necessary to alter from plain sewing. The insertion of a second needle, when required, is so simple, that it is not more difficult to perform than the setting of the first, hence you can perceive with me that the freedom from complication in the management of the machine is a very strong point in favour of the "Love," the size of which is up to the standard demand for "high arm," the space between the base of the arm and the needle being  $8\frac{1}{2}$  inches, while from the arm to bed-plate it is 5 inches.

In fine, it is all the inventor, Colonel Samuel Y. Love, and his Company claim for it, for independent of the points I have humbly detailed, sewing machine experts all around me claim the machine to be a revolution in our line, because adaptable to so many forms of work in the way of children's dresses, ladies' garments, &c., with thread or silk, to an extent that is greatly interesting ladies in select circles. Then, too, it is declared just the thing for fancy stitching in the corset business.

The present history of the "Love" runs as follows: The mechanical improvements, &c., incorporated in the "Love" machine were patented in 1879; after many tests, the Company for its manufacture was organized in 1883; they have erected a fine factory in Rochester, Pa., 185 ft. front, with a 160 ft. wing, by 60 ft. wide, built in the form of an L, of brick, two stories high, supplied with the best modern machinery and tools, with a capacity of 200 machines per day, the capital being in the neighbourhood of \$500,000, with the home office at Pittsburgh, Pa., and, being ready

for business, are casting about for responsible dealers to represent them in both America and Europe. "They are; they see; they want to conquer!"

#### THE "LEADER."

In my last I introduced you to the new Wilson Sewing Machine Factory, but, as this is an age of progress, no sooner does one of our companies bloom forth in certain directions than others take the hint and do likewise; this has been especially illustrated in the case of the "Leader" Company, who have made such efforts that it is claimed they probably possess one of the best designed and thoroughly built and equipped establishments in America, though by no means the largest. It is delightfully situated at Cleveland, Ohio, on a broad and open street, surrounded by the adjacent villas of Cleveland millionaires, showing an imposing frontage of 200 ft. four stories high, with a depth of forty four feet, supplemented with annex buildings from 100 to 120 feet in breadth for boiler, forging, oiling, hardening, annealing, and varnishing purposes, so that all the departments of works classed as possibly hazardous shall be kept from the main structure, from which they are divided by a heavy fire-wall or shield, every opening through which is guarded by heavy iron doors, rendering it possible for the annex to go down in ashes without materially affecting the main building, should the misfortune of a fire come upon it in any unavoidable way. It is not necessary to say that the clerical force and management has its hands full in comfortable quarters, Colonel W. H. Rayner, the general manager, with Mr. W. M. Hall, the treasurer, always being on hand to attend to business with gentlemanly courtesy and genial manners, ever ready to conduct visitors around, never tiring in detailing the many advantages the "Leader" Company now possess for "taking the lead indeed."

They would probably first take you to the basement, to see the fine Westinghouse engine they have for supplying steam power to the various departments; then to the polishing department, supplied with every improved appliance required in that branch of production. Next, you would be shown the screw room fitted up with both hand and automatic machinery for the manufacture of every kind of screw used in the construction of a machine. Facing the foregone would be found the stand department, perfect in every detail. Passing thence through a heavy iron door, you would gaze upon the annex buildings; entering the japanning room you would find three large ovens devoted to that speciality; then to the oil room, which is so arranged as to reduce all risks by fire to the lowest minimum. Going farther, you would reach the forge room, containing the annealing furnace, and supplied with one of the best boilers from the Globe Iron Works, beside which you could observe a vacant spot reserved for other boilers that may sooner or later be required, as the company do not perform all the work they may yet be called on to do, and so have kept an eye open toward grappling with increase of demand. Returning to the main building we find the different floors connected with each other by a very large Clem and Morse safety hatch elevator, and well supplied with fire extinguishers. Arriving at the main floor, we find, in the vicinity of the company's offices, the packing room, the stock and pattern rooms. Taking the elevator again the third floor is reached, proving to be the main machine room, where all the milling, drilling, and turning is done, as well as the finishing up of small parts and heads; but opening off from this main room we come upon two others—smaller in size—where large forces of experts are kept busily employed making those special tools, &c., used only by the "Leader" Company, in the one; while the other is devoted to the Eleusyan mysteries pertaining to attachments and new devices. Going to the elevator again, we mount to the fourth floor, to find it devoted to the business of assembling and adjusting parts, the utmost care being always exercised to secure perfection in every detail, with a view to building only *perfect machines*, for the company claims that nothing imperfect is, or ever will be allowed to enter into the construction of a "Leader" machine. Returning to

the street, the visitor would be sure to exclaim:—"I have seen a perfectly equipped sewing machine manufactory at last!" That is how your correspondent felt and still feels up to the present writing.

#### THE LATEST IMPROVEMENTS.

Under this caption let me introduce to you the "New Howe Shuttle" of the High Arm Howe Machine, claimed to be an important improvement lately embodied in the Howe make since the starting of their new factory. I presume I shall not overleap the mark when I say it seems to me to be one of the simplest "self-threading" shuttles yet presented to us, requiring as it does only a single motion of the hand to drop the thread into its place, and is simple as well as strong, while the movable side cannot be bent out of shape by careless handling. It has been said in regard to the bobbin, that it can carry more thread than any other shuttle for family machines yet made, while the opening along the top of the shuttle, as it lies in the race, affords the operator ample opportunity to see from time to time how the thread on the bobbin is running out.

A new Revolving Shuttle Machine is talked of as the production of a Mr. Hull, of Warren, Ohio, which I am informed can be made to make from 1,800 to 2,000 stitches per minute. Though only an experiment as yet, the Macks, of Cleveland, are looking after the matter, and putting the invention to a variety of tests to develop demonstrable capacity, if there is any in it; hence, up to present writing, while waiting other expert testimony and facts, judgment upon its merits must be deferred.

The "Cincinnati" is a new venture for which a new company is organized, with a determination to soon have it ready for inspection and the market. There must be something in it, because the Queen City Sewing Machine Company, of Cincinnati, from which the new Company springs, are of the conservatively cautious class of men who rarely "leap in the dark." It is to be manufactured in Cincinnati, Ohio, the selection of directors and officers being made by the controlling idea of at once pushing the business forward to successful issues; but correspondents to trade journals are told *to wait*, and I dare to flatter myself that we must do so if we desire to avoid carrying coal to Newcastle.

Messrs. W. C. Bancroft & Co., of Pittsburg, Pa., are out with a new enterprise in the form of something novel to sewing machine agents and dealers, offering them neat and compact boxes of goods ready cut and suited to their needs in the attachment business, which enables the canvasser to be always ready at a moment's notice to display the adaptability of said attachments to the best advantage without any delay during the processes of folding and cutting goods in the presence of customers. The idea is passing into general favour with all in the business, because it is not always that the proper material can be secured in the various households for spontaneously doing the best attachment or other work on the spot; and then, for showing up a machine to the best advantage, to have on hand just what one needs ready for active service, is sure to make the best impression desired, to be impressed on a buyer by the seller, which of course you will admit, on our side of the Atlantic, to be half the battle fought in selling a sewing machine or attachments, nine cases in every ten.

The "Clever" Machine idea is taking root in Chicago, Illinois; two models having already been constructed by the inventor, over which a large number of manufacturers, experts, and one or two leading editors have bent with tender solicitude and critical eyes, as if anxious to know, "If there is anything there?" The *Sewing Machine Advance* acts in the capacity of either godfather or godmother to it, and I presume that progressive American monthly never "goes it blind;" hence, I dare to believe that, as the Giblein Co. always mean business every time, there is business in whatever they hold up to the sewing machine world as worthy of attention and development. They also go far enough with your correspondent to claim that, although the models in question are somewhat crudely put



together, they are both complete or effective enough to demonstrate Mr. Clever's claim that either of them can be made to double the present number of stitches to each revolution of the band wheel at present obtained from any machine on the market in America or Europe. The inventor, himself, a resident of Brunswick, Mo., has spent several years in experimental construction of sewing machines; and therefore is considered "up in the business," and is satisfied that his new mechanical combinations are superior to any yet applied to the construction of sewing machines in the old world or the new, and that they will have to be ultimately adopted all the world over; but we can go no further in regard to the points contained in the intricate workings of the new mechanical contrivance, and respect the inventor's rights at the same time. So this is another case of waiting.

#### THE DOINGS OF OUR PEOPLE IN THE SEWING MACHINE TRADE.

The Sewing Machine Dealers Exchange, of Chicago, is claimed to be a success, and I have no room to doubt the assertion. At the time of its organization, everything in the attachment trade was at sixes and sevens, prices being at the mercy of customers, until the dealers were compelled to organize for safety's sake; since then, however, things have got into their proper shape with mutual advantage to those concerned, with but very little friction to either buyers or producers.

Manufacturers are now turning their attention to the improvement of the quality, grain, and durability of the wood employed as furniture, etc., to their machines. In this direction the Davis Company assume to lead the van.

The First Anniversary of the Rochester Association was held on May 15th, 1884, with the usual speeches, congratulations, and so on, peculiar to one of the best gatherings of sewing machine managers known to the history of the trade, everyone of whom returned to their posts fully convinced that, notwithstanding legitimate rivalry and competition, sewing machine men have found out a way to live and act amicably together as well as any other class of men on the ace of the globe; for, after the business of the day, they all sat down to a sumptuous supper, good humour prevailing to the end, our trade journals occupying a large part in their toast, "The Press."

We are all contemplating (and our editors either criticising or commending) the Ward Rotary Treadle, suggested by Mr. G. Barclay Ward, of New York, who claims that of all pedal motion that which propels the bicycle is the one least attended with exhaustion. So instead of the old foot-plate with the fatiguing toe and heel motion, he would substitute two bicycle foot-pieces (to work with a perfect natural circular motion), to be placed on a crank-shaft extending across the lower part of the stand from side to side; at the right extremity of the shaft is placed a wheel connected with a small pulley, which in turn is connected with and made to be a part of the larger wheel above, by a band transmitting the motion. Most decidedly the once suggested improvement, now a reality, ought to be adopted, because it presents the least fatiguing mode for operating a sewing machine known to man, so far as I am aware of.

Of course you are aware that a new market (the Mexican) is now opened up to American Sewing Machine Companies, who are going to use their own playful vernacular, "for scalps" in a new field, hoping not to find the woods already filled with Dutch and British makes. Most assuredly there is room enough and to spare, in view of the thousand and one new facilities offered to them, for they can rush through a car load from here to Mexico before or while the makers in Europe are loading a steamer for that country, and back again before said steamer has turned a paddle from Bremen or Liverpool. The danger lies in the possibility of overleaping each other when jumping for the prospective good things in store. If either Germany or Great Britain are to retain former or present options with the sewing machine trade of Mexico, they will have to

do their level best, for though most of our American exporters may at first find themselves confronted with European competition, still, in possession of a firm foothold, they do not intend to borrow trouble about it, but rather to sail right in, believing that their machines are the handsomest, the more superior, and more durable, capable of being adapted to a variety of useful ways, where the European is competent only for stitching calico or leather to shape; that, therefore, with so many advantages at hand, and closer to the market, they see no reason (but their own stupidity in not grasping the grapes when within reach) why the sewing machine makers and companies of the United States should not, sooner or later, monopolise the whole sewing machine trade of Mexico. I am decidedly of opinion that it will be a neck-and-neck race when the real struggle begins. Of course, many may enter, while only two or three will win the ultimate first, second and third prizes and stakes at issue. Yet all may run who choose.

Money with us is becoming more buoyant; capitalists who, up to within a short time ago, sailed gaily down to the Wall Street pen, talking stocks, in view of late events, have left their former haunts for pastures new and kind, in which a working capital would not be exposed to the secret knife of butchers who only feed their lambs one day to slaughter them the next. The Grant and Ward bubble was a scare that occasioned the uplifting of pious hands in holy horror; the nation's idol is shattered in the dust—so much for hero worship—especially when national heroes can so far forget themselves as to allow financial scoundrels to use a name for all the profit they can make out of it. In view of what has occurred, there is ample demonstration to show that the sewing machine trade and people peculiar to America is getting to become far more respectable and fair dealing than others we know of. The mighty are fallen, they may flourish like green bay trees, but when the simoom of destruction sweeps down upon them, our fraternity in both America and Europe are perfectly justified in exclaiming, How great were the mighty, fallen! But I must close in time to catch the mail, though the disposition to linger longer with you is very great.

Respectfully yours,

A.B.C.

## RECENT IMPROVEMENTS IN SEWING MACHINES.

BY THE AUTHOR OF "SEWING MACHINERY."

PERHAPS no other class of machines are subjected to such severe and prolonged testing of their powers as sewing machines. If we regard the matter as one of mere mechanical revolution only, an average sewing machine, making 800 stitches per minute, rotates 48,000 times in an hour, and 384,000 times in a day of eight hours. This, indeed, may be regarded as but an ordinary day's work for a sewing machine.

But we may go a step further, and will speedily conclude that the above performance is nothing extraordinary, when we consider that the recently-introduced fast-speed machines are usually moved by steam or other power at from 1,000 to 1,800 revolutions per minute. Moreover, the machine not only rotates; it becomes the medium for the expenditure of a considerable amount of mechanical energy: it pierces the cloth with its needle; it interlocks the two threads, and it feeds the cloth forward.

It is not surprising, therefore, that many makes of machines have proved quite unfit for prolonged use at either of the above-stated velocities. It speaks significantly of a great deal of thoroughly conscientious work in the construction when a sewing machine withstands the usages of modern clothing manufacturers for prolonged periods. As a matter of fact, very few makers have been able to either design or construct a machine that will withstand a speed of 800 stitches per minute maintained for many months.

The design of a machine is the all-important factor in its capabi-

lity to continue at work for years together. The design is of much greater importance than the material or the workmanship. A machine that produces much noise in work is badly designed, and a machine that has many, or complex motions, is faulty in design. It may confidently be accepted as a first principle, that the more noise a machine makes, the faster it will wear itself out. The same holds true of the mechanical energy required to move it. Hence, the future life of the machine may, to a great extent, be predicted upon listening to it, and examining its construction.

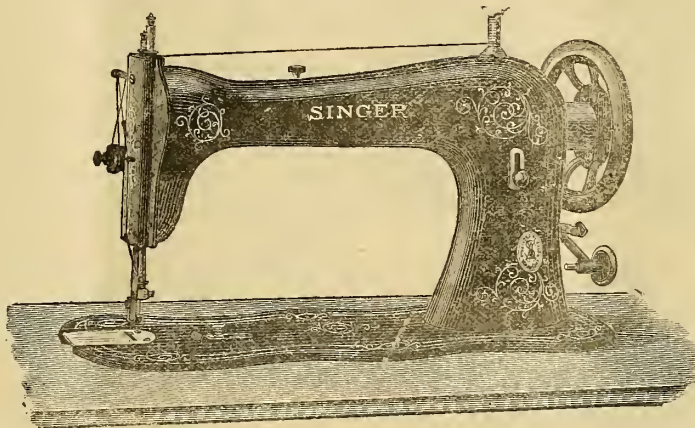
Mechanically considered, the machine should be so designed as to reduce friction to a minimum. Concussions between portions of the active mechanism should be entirely eliminated, and the machine should not develop when in rapid motion, a heavy momentum, otherwise it may fail in the important condition of being easily and rapidly started, or instantaneously stopped at the will of the user. If these latter conditions be carefully considered, and embodied in the machine, they will be found to include a *sine qua non* of a first-class machine, namely, lightness in running, so that the energy expended by the operator is as much as possible absorbed

by the forming of stitches, and as little as possible by friction or concussion in the machine itself.

A great deal of the best mechanical talent of Europe and America has been brought to bear upon the development of the sewing machine within the past twenty years, and the "perfection of stitching mechanism" has been ardently sought by more than one first-class firm of makers. The result is that several machines, differing from each other in design, and all "good," in the true sense of the term, are available to those who make stitching by machinery a trade in itself.

The Singer Manufacturing Company's new oscillating shuttle mechanism, of which we shall offer some few particulars, may be regarded as a "new departure" in the history of the sewing machine. The oscillating shuttle is, however, but one feature of this new machine. Every portion of the active mechanism, and the inter-relation between these active parts, are designed not merely upon a new plan, but upon lines evincing the most praiseworthy mechanical acumen, combined with a foresight into the future "life" of the machine under the most varied conditions.

FIG. 1.



A general perspective view of the new machine is given in Fig. 1, from which it will be observed that it possesses parts common to all machines, viz., a base or cloth plate, and an overhanging arm. The arm is, however, modelled so as to afford every facility for the passage of the largest kinds of work, angles, in either base or arm, being carefully avoided. The balance, or fly-wheel, is comparatively light, to permit of the rapid starting and instantaneous stopping of the machine.

The moving parts are, however, entirely concealed within the arm and beneath the base plate.

Fig. 2 exhibits the interior arrangements of the arm, the back of which is represented as removed for this purpose. Motion is imparted to the whole machine by means of a band passed around the grooved pulley (in the usual way) of the balance-wheel, *m*. This wheel is carried upon one extremity of a steel shaft, *b*, running in wide bearings at either end of the arm. This shaft has formed upon it a short crank, *c*, from which motion is transferred to the shuttle mechanism beneath the base, by means of the connecting rod, *f*. The upper extremity of this rod carries a "cap," adjustable upon, and removable from, the crank, *c*. At *d* an eccentric or "cam" is carried by the shaft. Its function is to impart an oscillatory or rocking motion to the connecting rod, *g*, which is bifur-

cated to embrace the eccentric. The fulcrum of this rod is at the point *o*, from which a short link is extended to *h*. Another lever extends from *h* to the stitch-regulating screw, situated upon the opposite exterior side of the arm, as shewn in Fig. 1. The whole arrangement forms a device by means of which the fulcrum point, *o*, may be varied in position by the raising or lowering of *g*, the stitch regulator before alluded to, and so varying the extent of the to and fro motion of the lower end of the rod, *g*. This motion controls the play of the cloth feeder, situated beneath the presser foot of the machine.

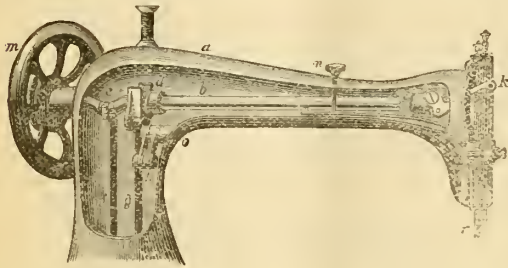
Continuing our examination of Fig. 2, it will be observed that the screw, *n*, regulates the extent of pressure exerted by a long flat spring, bearing upon the presser foot-rod, *r*. At *e* is situated a cylindrical iron block, rotating with the shaft. A cam-groove is cut in this cylinder. The function of this cam is to impart a peculiar irregular motion to the thread take up lever, *k*, which has its action upon the stud, *e*. The cam cylinder just mentioned also serves as a driving medium for the needle bar, an arrangement which calls for further explanation.

Fig. 3 exhibits the free extremity of the arm of the machine, with its cover removed. *a* and *a* shew the iron body of the arm, which is bulged outwards at those points, the more readily to accommo-



date the circular arrangement for driving the needle bar. *b* and *c* represent the presser and needle bars respectively. *d* and *d* are solid portions of the casting, through which the bars play. At *d* and *d* are also shewn two pairs of *stuffing chamber* screws; that is to say, the apertures through *d* and *d* are partially hollowed out wider than the needle and presser bars. These chambers are filled up

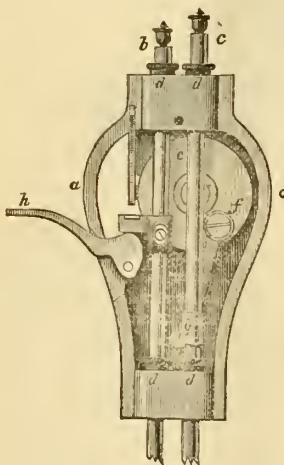
FIG. 2.



with hemp packing, which not only serves to greatly diminish friction, but retains a store of the lubricant, and prevents it from leaving the chambers. The two bars are of highly-finished and tempered steel.

*e* shews the face of the take-up cam cylinder already spoken of. At *f* is attached to it one extremity of a steel link, which engages with the needle bar behind the connection *g*. Hardened steel conical studs are employed for this purpose. It will thus be observed that the rotatory motion of the shaft, *e*, is at once imparted to the needle bar, without the intervention of any of the older devices known as "dip-cams," &c. The needle has thus a positive and direct vertical motion without cam friction. That portion of

FIG. 3.

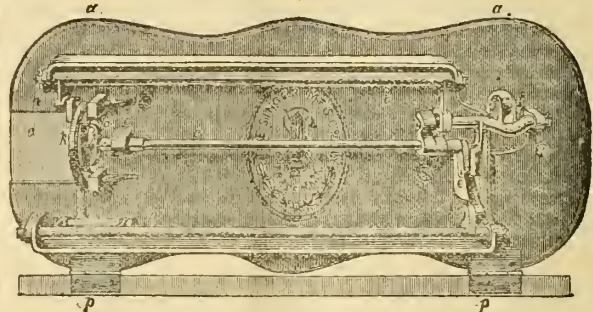


the work of stitch forming, which in the older machines is performed by a "dip" of the needle, is here allotted to the take-up lever already described. The presser bar is raised or lowered by means of the lever *h*.

Continuing our examination of the active portions of the machine, Fig. 4 represents the arrangements beneath the base plate. *a*, *a*, *b* and *b* show two projections of the casting, forming bearings for the central shaft, *c*. This central shaft receives its motion from the extremity of the crank-rod, *f*, which leads upwards to the arm shaft

as before explained. This motion is, in the first instance, imparted to a rocking bar, playing between cone pivots, as represented. This rocking bar carries a crank link or slide, *e*, engaging the crank attached to that end of the central shaft, *c*. By these simple means an oscillating motion, to the extent of 185 degs., is imparted to *e*. At the extremity of the central shaft, indicated by *d*, are represented the oscillating shuttle carrier and shuttle, having their motions

FIG. 4.



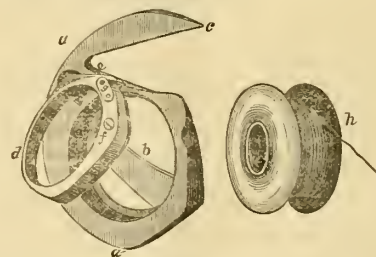
within a casing forming a kind of annular raceway, to be further spoken of.

The rocking bar, *f*, also carries a cam, which actuates the rod, *g*, and so serves to raise and lower the feeder, *k*, at the point *h*. The actual feeding motion is given by the rod, *m*, which is actuated, as before explained, by the lower extremity of the rod, *n*. *o* represents a removable slide plate, providing ready access to the shuttle. In the engraving, those portions of the casting which in the actual machine render the arrangement of the parts obscure, are not represented.

It may also be further observed that by means of a system of adjustable cone pivot screws of hardened steel, and lock-nuts, all the motion rods, save the central shaft, are hung so that while friction is reduced to the smallest degree, adjustments may be made at pleasure, or wear of the machine rectified by merely screwing up the pivots.

The whole of the arrangements already described are so delicately poised that the complete machine may be run with the smallest driving power.

FIG. 5.



The oscillating shuttle is of peculiar form. Fig. 5 will convey an idea of its construction. The engraving represents the shuttle in full size, and shews it as opened, ready to receive the accompanying thread bobbin. It thus represents a bivalve, having, however, projecting from the main part of the body, *a*, a beak, *c*. One half of the shuttle, *d*, is hinged at *e*, and when open presses against an antagonistic spring, *b*, which also serves to cause the open half to remain in that position until forcibly closed, when the bivalve is kept shut by means of the same spring. When the shuttle is closed, it forms a chamber for the steel cop, or spool, *h*, which accommodates a much greater length of thread than most other shuttles.

(To be Continued).

## THE WARD ROTARY TREADLE.

Our correspondent in Chicago draws our attention to the Ward Rotary Treadle, which is said to be a great improvement on the ordinary treadle. By a system of double gearing, consisting of two large and two small pulleys, the worker is able to make double the number of stitches than with the ordinary treadle. The speed can also be varied, and stopping and starting is also made more easily than with the ordinary mode of propulsion.

It is, however, well known that the greater the speed, the less is the power obtained. It is therefore still a question, which our correspondent does not solve, whether the force which has to be exerted by the foot is not as irksome as the greater speed of the foot necessary by the older system.

The new factory of the Singer Sewing Machine Manufacturing Company, near Glasgow, will be formally opened at the latter end of September next. It is already occupied to some extent with business, but all the departments are not yet complete.

Mr. CLARK, the eminent manufacturer of sewing machine cotton, has just issued another handsome show card, which is beautifully framed.

MESSRS. WILCOX and GIBBS are now exhibiting in their window one of their latest machines, with samples of embroidered bead work.

THE system of offering rewards to workmen for inventions and improvements is extending. Messrs Edward Whitley and Co., of West Hartlepool, have followed the example of Messrs. Wm. Denny and Bros., of Dumbarton. In the latter case it is said that several most important improvements have been made by workmen.

## DEATH OF CYRUS H. McCORMICK.

On the 13th inst., at his residence in Chicago, died one of those practical geniuses, the development of whose inventions are epochs in the history of civilization and industrial progress. The inventor of the reaping machine, like the inventor of the sewing machine, was a benefactor, conferring a blessing upon humanity the value of which is beyond the power of mere dollars and cents to express. It has been said that he who makes two blades of grass to grow where but one grew before is a benefactor to his race. How much more so he who puts the broad prairies of our golden West under contribution to furnish cheap bread to the world, by devising such implements as will enable one man to cultivate ten acres, where he could cultivate but one before.

Mr. McCormick accumulated great wealth from his inventions, leaving an estate estimated at £3,125,000 and over. He deserved it. A man who himself grows rich in this world's goods through making his fellows happier and richer is fully entitled to his reward.

The history of his career teaches two things especially. First, that the protection by the government of our inventors, by proper patents, is a source of wealth and progress to our own country as well as to the world at large; and secondly, that to those whose inventions are meritorious and eminently practical the road to fame and fortune is always open.

## TWO WAYS OF LOOKING ON ONE OBJECT.

ST. JAMES'S GAZETTE.

The most popular of English noblemen was yesterday presented with the freedom of the City of London. The career of Lord Shaftesbury has done much to convince English working men that noisy demagogues are not their truest friends. His long and honoured life has been devoted to the service of the poorer classes of his fellow-countrymen. He has not always been supported by those who pose on platforms as the people's friends. He is an

old-fashioned Englishman in high place, anxious at all times to help the weak and defenceless. He has not worked for party ends, or through party means, and he thus judges men and institutions with an impartial justice rare amongst our public speakers. All Englishmen will feel a just pride in his testimony to "the number, the fitness, and the readiness of the agents that rise up on all occasions in this great country of England, whenever there is anything good, anything noble, anything worthy to be done for the honour of God and for the welfare of the human race." And the "ancient, loyal, and noble" City of London, "distinguished at all times for its love of civil and religious liberty, for its noble spirit of charity, and its desire of social progress," will find in its new citizen's estimate of its character no inconsiderable support for its "ancient, long-established, and nobly used privileges."

## PALL MALL GAZETTE.

Lord Shaftesbury is too courteous a gentleman to look a gift horse in the mouth, and his humility is as sincere as it is conspicuous. None the less, the Common Council can hardly have failed to feel some little shame yesterday afternoon when the venerable philanthropist returned thanks for the honour which "even at this late period" they had done him, and congratulated them on the wisdom they had shown in leaving him so very short a span of life in which he could have any opportunity of tarnishing the dignity he had received at their hands. The Chamberlain, in the appropriate if somewhat over pompous address which formed the longest item in the programme, very truly remarked that it was easy to recognise worth when "the tide of public sentiment has turned," and "the hero is accompanied by the plaudits of an admiring world;" and at this stage of things, whatever honour there was in yesterday's ceremony, was conferred, not by the Common Councilmen on Lord Shaftesbury, but by Lord Shaftesbury on them.

## ELECTRICAL.

DOMESTIC ELECTRIC LIGHTING.—At Colchester a large company, composed in a great measure of representatives of important towns, lately witnessed an installation of electric lighting on the "constant supply system" to houses and shops. For more than a year the South-Eastern Brush Company has supplied light to houses and shops in Colchester. The installation was the application of the Beeman, Taylor, and King system, known as the "B.T.K.," by which the supply is stored, and so can be obtained at any time from a central station. The distinctive features of the system consisted in the use of "secondary batteries" or accumulators, placed in favourable positions, for reducing the length and dimensions of conducting cables; of dynamo machines capable of generating electric currents of any high electro-motive force for pressure, so as to charge a large number of these secondary batteries at one time, at a long distance from the dynamo or generating station; and, thirdly, of "rocking switches," which automatically shunted the currents as necessity might require. The machinery and apparatus were illustrated by diagrams, and it was shown that from the central station, which was afterwards visited, the current was sent by underground wires to the supply stations, and so to the houses of the consumers. Mr. King then touched switches on the table and lighted up different sets of incandescent lamps, one set applicable to a large house and shop, each lamp of 20 candle-power. He showed how a single lamp, sufficient for the lighting of a fairly large room, might be turned on and off by the mere touch of a key. A street lamp of 140 candle-power was also exhibited. Mr. George Offor, on the part of the Company, gave the costs of installation, which was to cover 2,200 lamps of sixty volts each, and stated at the charge of a halfpenny per lamp per hour the result would be a commercial success. The charge for the 140 candle-power lamps for street illumination would be 2½d the hour. It was stated that the inhabitants were rapidly adopting the light. A



visit was then paid to the works in Culver Street, at the back of the High Street; the accumulators were seen in a cellar of the Red Lion Hotel, in the High Street, and the system was seen in operation in some shops.

**TELEPHONE WIRES IN BRAZIL.**—The employes of the Telephone Company in Rio de Janeiro have great difficulty in keeping their wires intact owing to the constant damage inflicted by the Aasgeier, a large vulture, which is very common in Brazil. This bird, owing to its habit of just skimming the tops of the houses in its flight, frequently comes in contact with the telephone wires, and either breaks or becomes entangled in them. It appears that there is a law against the destruction of this bird, which does useful work as a scavenger, and consequently there is nothing for the telephone people but to grin and bear it. A local paper suggests that they must wait until the Aasgeier learns to avoid the wires. The wait will be a long one we expect.—*Electrician*.

**ELECTRIC LIGHTING AT A DANCE.**—At a dance given on Wednesday, the 11th inst., by Sir George Grove, at Lower Sydenham, the electric light was used to illuminate the various rooms, with great effect. The Lamps—twenty Woodhouse & Rawson and Swan, 20 candle-power, 42 volts—were fed by a Newton compound shunt dynamo, driven by a portable engine placed across the road about 100 yards off, and used during the day for sawing wood. As the house is already wired for electric light, all that it was necessary to do was to hang the cable over the road and connect on to the house mains. The rooms were quite cool, and general admiration was expressed at the effect. One of the young ladies present—Miss Chambers—had a small lamp embedded inside some real flowers, the current being supplied by an accumulator in the pocket of her dress, and the effect was exceedingly pretty. The machine, lamps, &c., were obtained from Messrs. Woodhouse & Rawson; and the whole of the wiring and fixing was done by Mr. A. S. Grove, assisted by Mr. R. T. Turnbull.

**UNDERGROUND WIRES IN NEW YORK.**—The New York *Electrical World*, in a recent article upon this subject, says that the reports of the sub-committees in that city respecting the problem of underground wires admit that the wires can be conducted underground, but the only practicable device to accomplish the purpose would be a subway or tunnel large enough to give workmen access to the wires at any time, and, after remarking upon the change of front on the part of one or two of the vehement advocates of underground wires consequent upon these reports, the *Electrical World* continues:—"It is about time that a stop was put to the practice of ripping and tearing up the roadways every other month or oftener, but if all the electric wires are to be buried, in the present condition of things the streets must be in a chronic state of disrepair. Ten years ago there were only the telegraph wires to be considered, now there are as well telephone, time, messenger, fire-alarm and electric-light wires; and ten years hence there will probably be as many more applications, each requiring its own set of wires. Moreover, the number of buildings to be connected is largely on the increase, adding proportionately to the possibilities of damage to wires and disturbance to the thoroughfares."

## COOKERY RECIPES.

### SPICED BEEF.

TAKE a round of beef, about 20 pounds, with plenty of fat to it. Take ½-lb. bay salt, 2-oz. saltpetre, 1-oz. cloves, 1-oz. of mace, a nutmeg, 2-oz. brown sugar, ½-lb. of common salt: pound them and mix them well together.

Then rub them into the beef, turn and rub it well every day for three weeks. Then bind it very tightly, and put it into an earthen pan, and add a little water to it, put 2-lbs. of suet over the top of it to keep it moist, cover it close and bake it eight hours; when cold take it out and bind it with clean tape or linen.

### STEWED RUMP STEAK.

TAKE a rump steak and flour it well, put it in a frying-pan, and brown it well on both sides, then put it in a stew-pan, with a little stock or gravy, a little ground spice, pepper and salt, a tablespoonful of mushroom catsup, same of Harvey sauce; let it stew gently for an hour.

### STEWED CARP OR SALMON.

TAKE a tumbler glass of beer, another of claret, and one of vinegar, a few parsley roots and onions cut, a little pepper, a few cloves, ½-lb. of coarse brown sugar, and the same quantity of butter. Put the fish cut in slices in the stew-pan, first mixing the liquid well. Let it stew till tender.

### SAUCE FOR SALMON.

ONE spoonfull of anchovy, 2 ditto of vinegar, ½-lb. of butter, and the yolk of an egg; dissolve them together over a slow fire for about ten minutes; it must be stirred constantly, or it will curdle. Some put in an onion whole, and take it out before serving it up.

### LEMON TART.

TAKE the juice of two lemons, the rinds of both grated: four eggs well beaten, ½-lb. of butter melted, and ½-lb. of sugar pounded. Put the above into a puff paste, and fill your pan before you put it into the oven. Butter the tin before you put the paste in.

## THE HEALTH EXHIBITION.

In the Western Arcade most of the space is occupied by sewing machines, some of which are entirely new. Several large manufacturers have the machines in motion, particularly the Singer Manufacturing Company and Messrs. Wheeler & Wilson; there is also a great variety of washing machines, one of which possesses great novelty. It is on an entirely new principle. Much improvement is shown in knitting machines, of which there are now several kinds; besides this the work of the sewing machine is largely represented in articles of attire which are displayed in another part of the exhibition.

The boot and shoe industries are also prominent, and in one department Mr. James Milbourn exhibits his leather-cutting machines in operation.

As all these labour-saving appliances represent important improvements, we purpose to devote a space to them, mentioning in particular what is new. Superior workmanship is the leading idea, and a mere glance shows that the display made is not merely to indicate how quickly work can be done, but rather how beautifully and well it can now be performed. Happily for those who obtain a living by making articles of attire, the introduction of the sewing machine has not led to a diminution of employment, but rather created a larger demand for labour, produced better articles, and improved the physical and social condition of the persons employed. It is evident that a certain amount of intelligence and natural ability are required on the part of the operator, and this has a reflex aspect on the goods displayed. The work has often finer and more delicate parts.

### THE SINGER MANUFACTURING COMPANY.

This eminent firm has a large stand, No. 1,205, in the Western Arcade, where they exhibit about 20 machines of various kinds, all of which are driven by an Otto gas engine of only half-a-horse power. The new oscillating shuttle is an excellent improvement introduced by this Company. The first one was employed in making boot uppers, the second is for tailoring, and the third was making shirt collars and cuffs. There is a very simple contrivance for setting the machine in motion. The lady has only to press her foot

on the treadle, "without any other muscular movement on her part, and instantly the machine is brought into contact with the engine. It can be speedily stopped at any stitch, and, as the machine is self-feeding, the operator has only to watch the work. Mr. William F. Oslerstock, of Brighton, who has the management of the stand, informed us that this new oscillating shuttle machine is designed especially for speed and strength, and is really the quickest machine made; but any variation of speed can be obtained at will. On one occasion he accomplished 4,000 stitches a minute, but they were not all perfect at such a great speed, which was obtained by electricity. He then tried 2,000 a minute, which were done to his satisfaction; but he considers that 1,500 is a fair and proper amount by the ordinary gas-engine power. We were anxious to inspect closely this new oscillating shuttle and other parts of the machine, and found that the construction is exceedingly simple. The working parts are few, and most of them pivoted on hardened cone centres, with adjusting coned screws and lock-nuts; therefore, although the machine is remarkably light in its running, the slightest wear can be taken up by a turn of the screws. Under such circumstances, repairs will practically not be required.

The latest improvements in button-hole making were specially shown in the afternoon, and obtained great commendation, and what was satisfactory to observe was, that although a dozen machines were running at full speed, and a variety of work being done, some strong and others very fine, yet no interference was required with the gas engine. Power was obtained in a moment and at any degree of speed.

We noticed two very beautiful cabinet machines shown at this stand, and for which the Singer Manufacturing Company deserve great credit. One called the "Family," is inlaid with pearl, and when not in use it forms a cheffonier. But, by a very ingenious arrangement, the cover unfolds and forms a table, which adds materially to the advantage of sewing, or to the comfort of the lady operating. The American drop cabinet is another invention of this kind. It is a splendid and most excellent article of furniture for the drawing room. The machine is not visible from the top when not wanted for work, but when sewing is required the flat table extends, and a touch of a spring brings the machine to the top. There are five drawers on the left side, and altogether this is a most excellent and beautiful article.

#### THE WANZER SEWING MACHINE.

This Company have introduced their new machine which we stated two months ago that they had in preparation. They have made it in two sizes, and the machine performs its work in a perfect, light, and rapid style. It is also finished in the most attractive style. As some of our readers will be aware, a Grand Silver Medal and the Iron Cross of Austria were conferred upon Mr. Wanzer by His Majesty the Emperor, who knighted him with the Order of "Francis Joseph the First," the only sewing-machine manufacturer in the British Empire who has received such distinction. We were shown one of the Wanzer machines which was selected by the Board of National Education for Ireland to be used in 7,500 schools, and it is due to this firm to say that they have always quoted their machines at moderate prices. Their one guinea stand for No. 3 machine, for instance, is an efficient and very useful article. Off the stand the Little Wanzer only weighs nine pounds. It is very popular in South Africa, to the Colonies of which we know that large numbers have been exported.

The Wanzer Plaiting Machine, and one for kilting, pressing and basting at one operation, are special with this Company. Altogether their stand at the Exhibition is deserving of notice.

#### A NEW KNITTING MACHINE.

Mr. James Foster, at Stands 1,216 and 1,206, is exhibiting a new Knitting Machine called the "Victoria." Its great peculiarity is having the carriage under the needle bed, which is a feature we have never before seen, and is an improvement much desirable as

it does not wear out the slides. It is manufactured in three slightly different forms or models under the designations of VSM, VHM, and VFM. An inspection which we closely made of each of these three machines impressed us with the idea that, by the absence of the upper carriage, there are increased facilities for making articles of clothing, and for this reason we feel sure that this new invention by Mr. Foster will find great acceptance. He has had nearly twenty years' experience in the manufacture of knitting machines, and in producing the "Victoria" he has retained all that was good belonging to machines on the old principle and introduced several new points which materially aid in the quick production of the best work.

#### THE VERTICAL FEED SEWING MACHINE.

At Stand No. 1,218, there is really a most beautiful display of work done by this machine, the London offices of which are at 52, Queen Victoria Street, E.C. (See advertisement.) We recently gave some description of the splendid style of embroidery, French folds, cording, felling, &c., which this machine performs, and at the Health Exhibition we were pleased to find a very tasteful display of the same kind of work, upon which we observed several ladies feasting their eyes. The stand is an attractive addition to the department occupied by sewing machines; and it really must be confessed that, of all machinery or apparatus shown at the Exhibition, the sewing machines carry the palm, both for their beauty and interest. As stated in the advertisement, "the Vertical Feed Sewing Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without tacking, thus effecting a great saving of trouble." The new high arm of this machine is worthy of special mention, whilst the under-view is very simple, and has no parts that require to be looked after.

#### WHEELER AND WILSON.

A large space is occupied by the Wheeler and Wilson machines, most of the varieties of which are seen in motion. There is also a prominent display of gold and silver medals, the latest of which is that from the Calcutta Exhibition, where the firm took the highest honours. It would be unnecessary for us to say anything about the principle of the Wheeler and Wilson machine, which is so well-known throughout the world, and has been extensively in use for many years. As a machine of unsurpassable excellence it holds its position against all others, and the firm is ever watchful and studious in introducing any improvement. The varieties shown at the Exhibition are those made for all kinds of work, excellent samples of which are shown at the Stand and made before the visitors' eyes.

#### LAUNDRY MACHINES.

Harper Twelvetees, a very popular name, exhibit a large number of laundry machines in Class No. 33. Prominent amongst them is the famous "Villa Washer," in commendation of which hundreds of testimonials have been written.

#### THE SELF-ACTING SEWING MACHINE.

At Stand 1,212, the Self-acting Sewing Machine Company show their Motor, which can be applied to work almost every description of sewing machine. It is a clever invention, and has already been much commended for its practical character. Whilst we were present, several ladies were much interested in observing that, after the Motor is wound up, which is quickly performed, there is power to maintain the motion of the sewing machine for one hour in full swing. Fatigue in working a machine is thus at an end, and there is everything desirable, inasmuch as the action is completely under control for either fast or slow work.



## THE WATER SUPPLY OF LONDON.

(Continued.)

In our last issue we have endeavoured to prove that the decision of the House of Lords in the Dobbs' case has not improved the position of the majority of the water consumers of London. To-day we shall try to show what is the only real remedy which can benefit the ratepayer.

We have in London eight Water Companies, every one of which has a large Board of Directors, Manager, Secretary, Officers, the yearly cost of which altogether amounts to £180,000, of which three-quarters could be saved by an amalgamation of the eight Companies. But this is not all. The South London Companies are in each other's way. Their pipes, their reservoirs, their filter-beds are too near one another and cross frequently. Were all under one management a considerable saving could be effected, by doing away with a large number of reservoirs, beds, and mains. The Kent Water Company has a considerable surplus of water, and could supply much more from their deep chalk wells, but they cannot utilize the surplus for the benefit of any other Company, the mains of which are on a different level from their own. On the other hand, the Lambeth Company has no water to spare, and any considerable increase of the population will drive them to their wits' end for water. So there is feasting in one corner and famine in another.

All this points to one solution of the difficulty—amalgamation or purchase of the whole eight Companies. The former is improbable; the latter is a necessity, which must come to pass sooner or later. Not only will the amount saved in management be very large, but the economies indicated (by a judicious arrangement of mains, reservoirs, and filter-beds, the result of one management) would probably save as much more.

Now, who can buy these eight Companies? We will leave the new proposal of the Government out of consideration for the moment, but deal with that ill-conceived monstrosity later on. There are only two bodies capable of dealing with the Water Companies. One is the Corporation of London, the other the Metropolitan Board of Works. We must confess we don't like the latter. Its composition savours too much of the vestries from which it springs. It is too lavish in its expenditure, which is often ill-considered and injudicious. It acts too often without a due sense of responsibility, and we should not like seeing it entrusted with the great work of supplying London with water. There remains only the Corporation of London, to which, indeed, we would entrust this great work without hesitation. Nor do we at all think it necessary to strengthen the present Common Council by additional Deputies from the District Vestries. We are not greatly enamoured of the Vestries of London. They are elected too generally by a noisy clique, active rather than intelligent, more troublesome than industrious, who manage the election to the exclusion of the better citizens, who, we are sorry to say, allow themselves to be pushed

aside by their less worthy fellow-parishioners. Although the Common Council is elected in the same way as other Vestries, it is composed of a vastly superior sort of men to the ordinary vestrymen.

We hear very often of Vestry Committees and Vestrymen being guilty of misconduct; making contracts for the benefit of individual members—not at the lowest tender—and indulging in festivities at the expense of the ratepayers. Not a suspicion—not a whisper—has ever been breathed against any member of the City Corporation. Well, such a body is just the One to take upon itself the Water-works of all London. They have discharged similar functions for many years in a most judicious, exemplary way; why not entrust them with the important office of the administration of the Water-works of this metropolis? We, for one, would feel certain that the work would be well done, and we are also persuaded that the majority of the London ratepayers would be of the same opinion; for, whilst the complaints of the citizens of the Western, Northern, and Southern districts of London are loud and bitter against their own Parish authorities, against the Board of Works and the School Board, nobody in the City has ever complained against the Common Council or the Court of Aldermen. We do not propose that the City Corporation should rule the whole of London, far from it, nor would the Corporation dream of accepting such a charge; we merely propose to entrust them with the specific office of providing London with water.

In framing the London Government Bill, the promoters have committed the great mistake of extinguishing all local representation, and all local management—everything is to be centralised. Now, although we admit that, for gas and water, centralisation is most necessary and beneficial, it cannot be so for any other purpose. A governing central body for four millions of people, dwelling on 120 square miles, must necessarily be ignorant and indifferent to the interests and requirements of the subdivisions of this great metropolis, and that is just what is most wanted. We want to leave the Vestries alone, but improve the material they are made of. Even now they are impotent for much mischief, as their doings and their members are closely watched. But a central authority, powerful, uncontrolled, unfettered, can do what no small Vestry can, and the chances are that it will do much more mischief than good. This is the principal reason why the Government proposal can never pass as it stands at present, but it is all the more reason why we should not be asked to wait for an improvement in the water supply management until a new central authority for London is established. That event is too remote, and the reorganization of the water supply too important.

We propose, therefore, that the Citizens of London should unite in asking the Corporation to apply for a Bill next Session to acquire the Water properties of London on the lines of the late Government's proposal of 1880.

(To be Continued.)

## NOTES ON WATER.

MR. DOBBS writes to the *Times* of the 21st of June, apropos of Lord Camperdown's Bill to amend the Water Acts (which was rejected on account of his not having complied with the Standing Orders of the House, the Bill being considered a private one)—“That Bills relating to the Water Companies are, to all intents and purposes, public Bills, and cannot justly be considered private ones, and should be treated as public Bills.” We certainly agree with him in this opinion.

The report of Mr. W. Crookes, F.R.S., Drs. W. Odling and C. W. Tidey, on the state of the Water Companies' supplies to the public, is eminently favourable. The Commissioners report that the water is clear, well filtered, and quite free from living organisms.

The water supplied to the City of Oxford seems to be as bad as it can be. Letters to the *Times* state that it is insufficient and utterly unfit for drinking purposes, being turbid and full of organisms. This is certainly unworthy of the principal seat of learning in England, and we cannot understand that so important a matter is complained of only, and not immediately attended to. It must necessarily be most injurious to health. Whether cleanliness goes before godliness may be a moot point. Evidently it is not considered so in Oxford, although we are convinced that no godliness can exist together with uncleanness.

## A ROMANCE FROM REAL LIFE.

A little, elegant, delicate-looking figure, with well-shaped limbs oval face with fine features, though wanting in softness, light, clear, almost transparent complexion, small mouth with pale lips, large grey eyes with a tinge of green in them; fiery red hair, always covered entirely with white powder:

This is Mademoiselle Ilona or Helen Schossberger de Tornya, first the wife of Dr. Julius Rosenberg, then the Countess Stefan Batthyany, the heroine of the events which we are going to relate, and which have been going on for the last two years in Budapest, Marienbad, Wiesbaden, etc.; the heroine of the drama, which has just met with its preliminary end by the death of the Count Stefan Batthyany, who was killed in a duel in the forest of Temesvar.

The family Schossberger have been very rich for some generations. Fortunate speculations made the present chief of the firm the possessor of 30 million florins (about 2½ millions sterling). He was made a Baron, with the title “de Tornya.” He then retired from the ordinary business which he had carried on, and remained “great landed” proprietor. Henry Schossberger de Tornya has two daughters, of whom our heroine is the younger. Both were intended to be married to men of the highest nobility, but both appeared to be inclined at one time to thwart his intentions completely.

A year ago Ilona, or Helen, made the acquaintance of the young, and highly esteemed barrister, Dr. Julius Rosenberg. In Pesth he was only known as the handsome Julius. He is the very type of a handsome man. Tall and slight, but with powerfully built limbs, classic features, large dark brilliant eyes, dark glossy hair, and the like beard and moustache. Miss Helen loved the splendid man, who returned her affection. The parents appeared to have no objection. The whole of the winter, he visited the family daily, appeared in their box at the theatre, was the constant companion of the young lady at balls, and everybody thought the two would marry one another.

Towards the end of the winter, a sudden change took place. The elder daughter married Baron Barnemisza. This realised the ardent desire of the old man Schossberger, who was in the seventh

heaven at this happy event. Baron Barnemisza belongs to one of the oldest families in Hungary, or rather Transylvania. Already in the fourteenth century, we meet with the name, and some of the members of the family played prominent parts in their country's history.

In modern times the family became poor, and the son-in-law of Schossberger could only by his rich marriage re-establish the former brilliant position of the family.

This marriage was to become of fatal influence on the destinies of the loving couple, Helena—Julius.

Baron Barnemisza had taken to wife the daughter of the rich Jew after she had been baptised, but to have a Jew for brother-in-law was too much for him.

Schossberger suddenly forbade Dr. Rosenberg to enter his house again, because he did not wish that his son-in-law should avoid the same.

Helena had to go in the spring on a visit to her sister, the Baroness Barnemisza. In the valley of Transylvania, in the lonely and world-forsaken castle of the Barnemisza's, she was to forget her handsome lover. But the postman kept up the lovers intercourse, and in daily long letters they promised one another eternal faithfulness and constancy.

At the commencement of the season the mother of Helena came and fetched the love-sick, and by no means cured daughter home, but she did not intend to leave her in the capital, but to take her to Marienbad. The father Schossberger came then also, and Dr. Julius Rosenberg found his way thither, too, of course, without the parents' invitation. There the lovers met frequently. At last they resolved to be married secretly, and they hoped that after the marriage, being once an accomplished fact, the consent of the parents could be easily obtained.

An orthodox Rabbi, who did not care a rap about the civil marriage laws of the country, was found in the fashionable watering place, easily enough. Two witnesses were also soon procured, and one day the marriage took place according to the strict orthodox Jewish rites. The married couple wished at once to go on their wedding tour, of course, without taking leave from the parents; but Dr. Rosenberg had scruples, and when an influential friend of both families promised the young husband to exert himself in their favour with the hard-hearted father-in-law, Dr. Rosenberg induced his wife to return at once to her parents' house. The parents were not pleased with the marriage when they were informed of it, but they appeared to be resigned. They allowed the intercourse of the young couple, but made it a condition that the secret marriage should remain a secret, and that a public betrothal should take place which should be followed in Pesth by a legal and open marriage. The couple agreed to it gladly, and Dr. Rosenberg returned with the family Schossberger, at the end of the bathing season, from Marienbad to the Hungarian Capital.

From that time, events followed each other in rapid succession. Schossberger consulted some legal authorities, and all told him that a secret marriage contracted abroad was null and void according to the Hungarian laws. Dr. Rosenberg at once received orders never to again enter the house of Schossberger, and to leave in future “Miss” Schossberger unmolested. The young man obeyed the former injunction; he came no more into their house, but he continued to fight for his wife.

Suddenly Helena disappeared from Pesth; the wifeless husband heard after a while that his wife was in Wiesbaden with her mother. He immediately went there also, but in the meanwhile things had taken a very queer shape indeed.

Baron Barnemisza, the son-in-law of Schossberger, who would positively not consent that his sister-in-law made a *mesalliance*, as he called it, had a most intimate friend, Count Stefan Batthyany. The name is most significant.

The Batthyany's belong to the first and oldest families in Hungary. At one time they stood very near the throne, and brilliant generals



and great statesmen arose from the House. There are still three branches of the family existing. One of them, whose chief is Count Sigismund Batthyany, is utterly ruined. The son of this Count Sigismund is Stefan. He was a tax collector in a little out-of-the-way place in South Hungary, and lived very poorly. But he was a Batthyany, and a very handsome man to boot; handsomer even, and of course, by far more high-born than the handsome Julius, "the Jewish Barrister" of Pesth. Last year but one Count Stefan made the acquaintance in his South Hungarian tumbledown village, of a pretty girl of a very respectable family, and the girl very soon fell in love with the young man with the brilliant name. A very intimate relationship arose from this acquaintance, which did not remain without consequences. The family of the girl pressed the Count hard to restore his victim to honour, and the betrothal really took place soon after, with the understanding that the marriage should be solemnized in due course.

But the intimate friend of Count Stefan, the Baron Bornemisza, was greatly shocked at this second *mesalliance*. To get rid of it he proposed to his friend to discard the simple country girl, and to marry instead the rich sister of his wife, Miss Helena de Schossberger, who would become a Christian. Count Stefan followed the advice of his friend; he asked the hand of the rich Jewess, and his friend arranged the matter for him with Mr. de Schossberger, who accepted with joy the noble and high-born Count.

And Helena. Alas! it was the old, old story, which is always new. *La donna è mobile!* Helena was suddenly changed into a new being. The lover was forgotten; she liked the Count better. In Wiesbaden they became engaged to one another. The wife, who was not a wife; the bride whose bridegroom was not allowed to approach her, was the betrothed of another man, who in his turn had also just forsaken his betrothed. One must confess here was a romance, the like of which the imagination of a novel writer could not rival.

Dr. Rosenberg forced, in Wiesbaden, admittance to his wife. She told him she did not love him; that she loved the Count, whose betrothed she was. Then Dr. Rosenberg went to the Count, and told him the whole story. The Count would not listen to him. He demanded satisfaction. Count Stefan replied, "I have never offended you, and don't feel myself offended by you. Why should I fight a duel?" Dr. Rosenberg was not content with this answer; but the Count, on being further pressed, declared the lawyer not fit to call him to account. Returning home from Wiesbaden, Dr. Rosenberg wrote to all the papers in Buda Pesth, and called Count Stephen Batthyany a miserable coward. Meanwhile Helene de Schossberger had gone from Wiesbaden to Paris, had been baptised in the Church Notre Dame in the Roman Catholic faith, and had returned to Hungary, to one of her father's estates, where, soon after, she was married to Count Batthyany in the chapel of the Castle.

Immediately after the wedding, the newly-married couple went to Italy to spend the honeymoon. Whilst travelling, the Count saw the newspapers in which the "illegal" husband of his wife insulted him. He stopped, and returned home. Now he resolved to fight. A Court of Honour had already declared Dr. Rosenberg as fully competent to fight a duel. On Monday, the 22nd of October, 1883, exactly one week after the marriage of the Count with Helena, the two rivals met in the so-called "hunting forest," near Temesvar, to fight the matter out. All attempts at conciliation remained fruitless.

The Count said, "One of us two must be killed."

Three times they exchanged shots, at a distance of twenty yards. At the third fire Count Stefan Batthyany fell dead. Helena de Schossberger is a widow, after a marriage of seven days' duration. Her husband had been killed by her husband. Dr. Rosenberg surrendered at once to the Courts of Law, and he is to be tried. Hungarian justice is in such cases very lenient. Whether it is likely to be so in this case, time will show.

Helena de Schossberger, widow of Count Batthyany, who had hastened at once to Temesvar to bring home the body of her husband, is completely broken down. Baron Barnemisza laments his friend, and reproaches himself bitterly. The only one who is very little moved by the catastrophe, is he, whom public opinion condemns unanimously, Mr. Henry Schossberger de Tornya. He consoles himself with the idea that his daughter is after all Countess Batthyany. But not he alone is to blame; Helena herself, her mother, still more Baron Barnemisza, and the deceased, who, it is true, paid for his misdeed with his life—they all have their share in the drama. Female inconstancy, ambition, avarice, coupled with prejudice of caste, have all united to bring about one of the most sensational, and most singular of social events, which has caused the greatest astonishment, and allows a glimpse into the singular condition of certain classes. The event merits fully the designation of "A Romance in Real Life."

Dr. Julius Rosenberg was sentenced by the Court to two years' imprisonment, which the Court of Appeal has reduced to six months.

## PATENTS.

The following list has been compiled expressly for this Journal by Mr. G. F. Redfern, Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.

### APPLICATIONS FOR LETTERS PATENT.

- No. 7447. J. Keeling, of Aston, near Birmingham, for improvements in bicycles, tricycles, and other velocipedes. Dated May 9, 1881.
- " 7456. G. Stephens, of Westbury-on-Trym, near Bristol, for "a gong cyclometer," an instrument for registering miles when attached to a bicycle or tricycle. Dated May 9, 1884.
- " 7468. C. Haigh, of Gell-street, Sheffield, for improvements in and connected with screwdrivers. Dated May 9, 1884.
- " 7473. M. D. Rueker, of Bethnal-green, London, for an improved form of bicycle to carry two riders. Dated May 9, 1884.
- " 7518. F. W. Bagshaw, of Sheffield, for a compound driving gear for bicycles, tricycles, and other carriages. Dated May 10, 1884.
- " 7531. H. James and G. Robinson, both of Sheffield, for improvements in spring actions for bicycles, tricycles, and velocipedes. Dated May 10, 1884.
- " 7532. G. Hookham, of Birmingham, for improvements in india-rubber tyres for bicycles, tricycles, and similar articles. Dated May 10, 1884.
- " 7538. T. Suckley, of Worthenbury, Flintshire, for a safety bolt. Dated May 10, 1884.
- " 7546. S. Pickersgill, of Derby, for improvements in open fire-grates or stoves. Dated May 10, 1884.
- " 7578. F. G. Myers, of Wellingboro', Northamptonshire, for an improved method of treading or actuating tricycles, velocipedes, &c. Dated May 12, 1884.
- " 7597. J. Bland, of Hawley-street, Cavendish-square, London, for expediting the heating of water in ordinary domestic kettles. Dated May 12, 1884.
- " 7610. G. H. and H. W. Chubb, of Queen Victoria-street, London, and H. S. Ball, of New-cross, London, for improvements in door locks and latches. Dated May 12, 1884.
- " 7620. T. Abbott and M. Hawthornthwaite, both of Lancaster,

- for improvements in means for flushing the pans of waterclosets, and for other purposes. Dated May 13, 1884.
- No. 7627. W. P. Thompson, a communication from S. Kruka, of Michle, near Prague, Austria, for improvements in manumotive velocipedes applicable for use on various kinds of roads. Dated May 13, 1884.
- " 7631. F. W. Jones, of Sidwell-street, Exeter, for improvements in the construction of tricycles. Dated May 13, 1884.
- " 7637. A. M. Clark, a communication from H. Field, junior, of New Bedford, Massachusetts, United States, for an improved apparatus for operating sewing machines, lathes, and other machinery by foot power. Dated May 13, 1884.
- " 7638. C. W. Wallich, of Her Majesty's Indian Army, for an improved form of gas lamp. Dated May 13, 1884.
- " 7652. A. K. MacKinnon and B. D. Weston, both of the Omega Gaslight Company, of Old Kent-road, London, for improvements in or in connection with argand gas burners. Dated May 13, 1884.
- " 7670. C. M. Linley and J. Biggs, of Melior-street, Southwark, and G. G. Tandy, of Clapham, London, for improvements in velocipedes. Dated May 13, 1884.
- " 7672. J. W. Brown, of Leamington, Warwickshire, for improvements in kitcheners or cooking ranges. Dated May 13, 1884.
- " 7686. R. Marshall, of Nottingham, for improvements in the driving gear for bicycles. Dated May 14, 1884.
- " 7689. G. Smith, of Cheetham, Manchester, for an improved safety and steering perambulator. Dated May 14, 1884.
- " 7705. C. J. Burton, of Deptford, London, for improvements in ranges or kitcheners. Dated May 14, 1884.
- " 7715. A. Cornell, of High-street, Kingsland, London, for improvements in perambulators. Dated May 14, 1884.
- " 7739. A. Purkess, of Andover, Hampshire, for a new and improved earth closet apparatus and separating pail. Dated May 15, 1884.
- " 7747. T. C. J. Thomas, of the Minories, London, for improvements in lamps. Dated May 15, 1884.
- " 7748. E. B. M. Bond, of Oxford-street, London, for improvements in sash fasteners. Dated May 15, 1884.
- " 7784. W. F. Alcock, of Birmingham, for improvements in call and other bells. Dated May 16, 1884.
- " 7817. H. Stock, of Chelsea, London, for improvements in tea and coffee-pots. Dated May 16, 1884.
- " 7822. J. Fox, of London-wall, London, for improvements in sewing machines. Dated May 16, 1884.
- " 7827. E. C. F. Otto, of Peckham, London, for improvements in velocipedes. Dated May 16, 1884.
- " 7831. W. Oldham, of Balham, Surrey, for improvements in filters. Dated May 16, 1884.
- " 7842. T. Hughes, of Lozells, Aston, Warwickshire, for improvements in bicycles & tricycles. Dated May 17, 1884.
- " 7844. S. Smith, of Keighley, Yorkshire, for improvements in steam washing machines. Dated May 17, 1884.
- " 7851. J. Burrows, of Birkenhead, for improvements in pot lids and other lids for cooking purposes. Dated May 17, 1884.
- " 7891. W. C., A. T., E. A., and E. E. Jones, of Chester, for improvements in gaseliers and fittings. Dated May 19, 1884.
- " 7902. H. J. Allison, a communication from A. G. Beyer, of New York, United States, for improvements in gimlet-pointed screws to be used for belt fastenings and other purposes. Dated May 19, 1884.
- No. 7906. T. McIlray, of Grafton-street, Fitzroy-square, London, for an improved crank-power chair or tricycle. Dated May 19, 1884.
- " 7907. T. M. Bear, of Colchester, Essex, for an improved form of tricycle. Dated May 19, 1884.
- " 7910. E. K. Heaps, of Brotherton, near Ferry Bridge, Yorkshire, for improvements in steam washers. Dated May 19, 1884.
- " 7915. F. Brown, of Stuart-street, Luton, for an improved dripping pan. Dated May 19, 1884.
- " 7924. F. Mann, of Wedmore-gardens, Upper Holloway, London, for a wardless key and lock. Dated May 19, 1884.
- " 7928. J. Laughlin, of St. Louis, Missouri, United States, for improvements in bicycles, &c. Dated May 19, 1884.
- " 7945. J. Ainsworth, of Darwen, Lancashire, for improvements in gas burners. Dated May 20, 1884.
- " 7947. J. Sherwood, of Birmingham, for improvement in stoves burning petroleum or other hydro-carbon oils for heating, cooking, and bathing purposes. Dated May 20, 1884.
- " 7956. J. Osgerby, of Prince of Wales's-road, Kentish-town, London, for improvements in water heaters. Dated May 20, 1884.
- " 7965. W. C. Williams, of Leamington, Warwickshire, for improvements in burners for lamps. Dated May 20, 1884.
- " 7972. D. T. Bostel, of Southampton-buildings, London, for improvements in or applicable to water-closets and urinals. Dated May 20, 1884.
- " 7986. J. W. and R. W. Perkins, of Bermondsey-street, London, for improvements in the manufacture and construction of metallic baths. Dated May 20, 1884.
- " 7997. M. Massey, of Kidderminster, for an improved soup pot. Dated May 21, 1884.
- " 8016. L. A. Groth, a communication from F. Schumacher, of Stuttgart, Germany, for a new or improved needle and apparatus for sewing shoes and other leather goods. Dated May 21, 1884.
- " 8028. J. Mountain, of Sheffield, for improvements in water closets. Dated May 21, 1884.
- " 8031. T. McGrath, of Sheffield, for improvements in perambulators. Dated May 21, 1884.
- " 8033. L. Woodward, of Nottingham, for improvements in knitting machines. Dated May 21, 1884.
- " 8088. F. G. Perry, of Lower Clapton, London, for improvements in gas lighting. Dated May 22, 1884.
- " 8091. F. Cuntz, of Karlsbad, Bohemia, Austria, for automatic flushing tank. Dated May 22, 1884.
- " 8101. G. Hookham, of Birmingham, for improvements in tricycles and similar vehicles. Dated May 23, 1884.
- " 8120. A. H. Hearington, of Regent's-park-road, London, for improvements in gas burners for lighting and heating purposes. Dated May 23, 1884.
- " 8121. A. H. Hearington, of Regent's-park-road, London, for an improved construction of water heater or boiler. Dated May 23, 1884.
- " 8146. W. H. Tylor, of Newgate-street, London, for improvements in apparatus and arrangements for the water supply of water-closets, laboratories, urinals, and the like. Dated May 23, 1884.
- " 8160. J. Walker, of Birmingham, for improvements in door-lock and latch furniture. Dated May 26, 1884.
- " 8164. T. Lon, of Blairgowrie, Perthshire, for improvements in sewing machines. Dated May 26, 1884.
- " 8168. A. J. Jones, of Moseley, Worcestershire, for improvements in carving forks. Dated May 26, 1884.



- No. 8207. W. Jackson, of Caroline-street, Eaton-square, Fimlico, London, for improvements in the construction of sewing machines. Dated May 26, 1884.
- „ 8214. W. Beecroft, of Swinegate, Leeds, for improvements in smoothing and pressing irons. Dated May 26, 1884.
- „ 8226. O. Lee, of Tottenham, London, for improvements in velocipedes. Dated May 26, 1884.
- „ 8249. T. W. Twyford, of Hanley, Staffordshire, for improvements for flushing wash-out closet basins, and ventilating same when in use. May 27, 1884.
- „ 8250. W. and W. G. Macvitie, of Wylde-green, Sutton, Warwickshire, for an improvement in window fastening. Dated May 27, 1884.
- „ 8255. W. H. and B. Jones, of Wolverhampton, for improvements in metallic tea or other kettles, or vessels for boiling liquids. Dated May 27, 1884.
- „ 8272. W. Bradley, of Sheffield, for improvements in latches and locks. Dated May 27, 1884.
- „ 8291. P. Jensen, a communication from P. Kuschla, of Frankfort-on-the-Main, Germany, for improvements in suspended bed bottoms or mattresses for children's cots, perambulators, and invalid's carriages and bedsteads. Dated May 27, 1884.
- „ 8294. A. Harvie, of John-street St. Peter-street, Islington, London, for an improved means for contracting perambulators and wheel-chairs when not in use. Dated May 27, 1884.
- „ 8311. J. E. Dixon, of Nottingham, for improvements in pedals for velocipedes. Dated May 28, 1884.
- „ 8315. H. Foster, of Rye, Sussex, for improvements in bicycles. Dated May 28, 1884.
- „ 8322. F. Flocking, of Liverpool, for improvements in ovens or stoves for cooking and other purposes. Dated May 28, 1884.
- „ 8327. W. Smith, of Durham, for improvements in ovens. Dated May 28, 1884.
- „ 8358. P. W. Joyce, of Dublin, for an improved apparatus for interchanging power and speed in velocipedes. Dated May 29, 1884.
- „ 8362. J. Bullock, of Featherstone, near Pontefract, Yorkshire, for improvements in tricycles. Dated May 29, 1884.
- „ 8370. W. Mills, of Woodhouse-forgo, near Sheffield, for improvements in the construction of spades and shovels. Dated May 29, 1884.
- „ 8401. F. H. White, of Liverpool, for improvements in fitting swing trivets to fire-grates, ranges, and stove bars. Dated May 30, 1884.
- „ 8417. J. H. Clark, of Leeds, Yorkshire, for improvements in steam washers. Dated May 30, 1884.
- „ 8442. H. Lewis, of Edmonton, London, for an improved driving-gear for velocipedes. Dated May 30, 1884.
- „ 8444. J. Child, of Headingley, near Leeds, for improvements in steam washers. Dated May 30, 1884.
- „ 8459. L. Gye, of St. James's-street, London, for improvements in apparatus for supporting lamp shades. Dated May 30, 1884.
- „ 8465. J. Lee, and E. Whittington, of Brighton, for a combined bicycle saddle, spring and tool bag. Dated May 31, 1884.
- „ 8472. E. W. Hewett, of Portland-square, Bishop's Waltham, Hampshire, for improved bicycles and tricycles. Dated May 31, 1884.
- „ 8474. W. Crook, of Salisbury, Wilts, for improvements in stoves, gas stoves, ranges, and the like, and appliances therefor. Dated May 31, 1884.
- „ 8491. W. Wiggett, of Freegrove-road, Islington, London, for an improved combination lock and fastener for velocipedes. Dated May 31, 1884.
- No. 8506. H. J. Haddan, a communication from G. Theis, of Solingen, Germany, for an improvement in button-hole scissors. Dated May 31, 1884.
- „ 8508. A. J. Howard, of Chiswick, London, for an improved construction of combination boards for cleaning knives. Dated May 31, 1884.
- „ 8536. F. W. Jones, of Exeter, for an auxiliary handle for velocipedes. Dated June 3, 1884.
- „ 8545. S. Pitt, a communication from W. S. North, of Chicago, Illinois, United States, for improvements in sewing machines. Dated June 3, 1884.
- „ 8563. W. Phillips, of Southampton, and G. H. Street, of Richmond, Surrey, for the application of hydraulics to velocipedes and other manual and pedal machines. Dated June 4, 1884.
- „ 8588. B. Wilcox, of Tavistock-place, for improvements in candlesticks and candles therefor. Dated June 4, 1884.
- „ 8615. W. Daniell, of Linslade, Buckinghamshire, for improvements in oil lamps and chandeliers. Dated June 5, 1884.
- „ 8644. G. H. Winscom, of Newport, Isle-of-Wight, for an automatic cooking apparatus. Dated June 6, 1884.
- „ 8650. J. Donald, of Glasgow, for improvements in fire grates. Dated June 6, 1884.
- „ 8682. J. A. Leeming, of Bradford, Yorkshire, for improvements in tricycles. Dated June 7, 1884.
- „ 8688. T. W. Twyford, of Hanley, Staffordshire, for an improved shower-bath rose. Dated June 7, 1884.
- „ 8690. J. Summerscales, of Keighley, Yorkshire, for improvements in washing machines. Dated June 7, 1884.
- „ 8698. W. E. Hurrell, of Hoxton, London, and W. Spence, of Surbiton, Surrey, for improvements in the construction of frames for tricycles. Dated June 7, 1884.
- No. 8703. A. H. Cartmale and W. Day, of Southampton-buildings, London, for an improved arrangement for carrying a child's seat on a tricycle. Dated June 7, 1884.
- „ 8714. H. Horcroft, of Maidstone, Kent, for improvements in velocipedes or in spring-motors applied to same. Dated June 7, 1884.
- „ 8730. J. Briggs and F. Holloway, both of Birmingham, for steering purposes applicable to tricycles and other velocipedes, namely, an internally pivotted axle. Dated June 9, 1884.
- „ 8749. J. Adams, of Great Dover-street, London, for improvements in door springs. Dated June 9, 1884.

#### Letters Patent have been issued for the following:

- No. 5390. T. J. Denne, of Selhurst, Surrey, for an improved construction or arrangement of sewing machine. Dated November 15, 1883.
- „ 5411. R. Schulz, of Dresden, Germany, for improvements in petroleum heating apparatus. Dated November 16, 1883.
- „ 5501. R. Frank, of Hamburg, Germany, for improvements in book sewing machines. Dated November 23, 1883.
- „ 5521. J. E. Péchard, of Paris, for improvements in sewing machines. Dated November 26, 1883.
- „ 5573. W. Dawson, of Leeds, for improvements in perambulators. Dated November 29, 1883.
- „ 5589. S. Hall, of Sandall-road, Camden-road, London, for improvements in velocipedes, the said improvements being in part applicable to other machines. Dated November 30, 1883.

- No. 5651. W. R. Lake—a communication from E. L. Fenerty, of Halifax, Canada, for improvements in the manufacture of shovels or spades. Dated December 5, 1883.
- „ 5659. W. P. Thompson—a communication from A. Edwards, of Asbury Park, New Jersey, United States, for improvements in seal traps for wash-basins, water-closets, and like purposes. Dated December 6, 1883.
- „ 5711. H. Birch, of Kingsdown Parade, Bristol, for improvements in sewing machines. Dated December 11, 1883.
- „ 5825. J. Shanks, of Barrhead, for improvements in and connected with water-closets, and other domestic water supply apparatus. Dated December 21, 1883.
- „ 70. J. Robson, of London-street, Fitzroy-square, London, for improvements in double folding perambulators. Dated January 1, 1884.
- „ 1264. A. B. Bell, of Bennett-street, Sheffield, for improvements in the construction and manufacture of razors. Dated January 11, 1884.
- „ 1534. W. Avery, of Headless Cross, near Redditch, Worcestershire, for an improvement or improvements in the manufacture of metallic needle-cases. Dated January 16, 1884.
- „ 2248. M. J. Redgate, of Sheffield, for improvements in perambulators. Dated January 28, 1884.
- „ 2380. J. Jackson, of Coventry, for improvements in tricycles and other velocipedes. Dated January 30, 1884.
- „ 2576. W. Crook, of Salisbury, for improvements in fire places, grates, stoves, ranges, and the like, and appliances therefor. Dated February 2, 1884.
- „ 3108. J. A. & J. Hopkinson, of Huddersfield, for improvements in hot water apparatus for domestic and similar purposes. Dated February 11, 1884.
- „ 3237. W. Singer and F. H. Hinterleitner, of Berlin, for improvements in folding carriages for children. Dated February 13, 1884.
- „ 3372. W. H. Bulpitt, of Birmingham, for improvements in candlesticks. Dated February 15, 1884.
- „ 3595. A. J. Boulton, a communication from P. I. Winson, of Fosses, Belgium, for sewing machine shuttles. Dated February 19, 1884.
- „ 3628. A. B. Ball, of Sheffield, for improvements in the construction of pocket knives or spring cutlery. Dated February 20, 1884.
- „ 3819. J. Ludlow, of Birmingham, for improvements in the roses of watering cans, also applicable to other similar purposes. Dated February 23, 1884.
- „ 3832. C. Quitman, a communication from T. Herrmann, of Dresden, Germany, for an improvement in frames for suspended lamps. Dated February 23, 1884.
- „ 4041. W. R. Lake, a communication from J. O. Grady, of Newton, Massachusetts, United States, for improvements in weighing scales or balances. Dated February 27, 1884.
- „ 4142. R. B. Sanson, of Globe-road, London, for improvements in heating smoothing irons. Dated February 29, 1884.

SPECIFICATIONS OF THE FOLLOWING HAVE BEEN PUBLISHED.

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„ 4697. W. R. Lake, water-closets, &c. .. ..	1	0	

No. 4704. J. Child, washing machines .. ..	0	6	
„ 4712. C. Pieper, sewing machines with rotary hook .. ..	0	6	
„ 4747. J. W. Sutton, burners for burning gas mixed with hydro-carbon vapour .. ..	0	6	
„ 4775. H. Glaeser, producing ornamental stitching in shuttle sewing machines .. ..	0	4	
„ 4798. L. A. Groth, sewing machines, &c. .. ..	0	1	
„ 4802. H. J. Haddan, velocipedes .. ..	0	8	
„ 4849. W. R. Lake, controlling the supply of gas to railway carriage and other lamps or burners .. ..	0	2	
„ 4863. W. Smeaton, Seur., water-waste preventers .. ..	0	2	
„ 4902. E. Grube, hand-lamps .. ..	0	2	
„ 4909. A. G. Brookes, skates .. ..	0	6	
„ 4919. W. P. Thompson, moderator lamps .. ..	0	4	
„ 4929. W. Singer and F. Hinterleitner, folding carriages for children .. ..	0	4	
„ 5006. A. J. Eli, velocipedes .. ..	0	2	
„ 5010. J. O. Fry, soldering irons .. ..	0	2	
„ 5022. F. & W. Parker, hinges, &c. .. ..	0	6	
„ 5041. W. R. Lake, sewing or stitching button holes .. ..	0	8	
„ 5052. H. J. Allison, supplying air to lamps .. ..	0	6	
„ 5114. J. Leggett, keys for locks .. ..	0	2	
„ 5115. A. B. Weakes, rims for the wheels of velocipedes, &c. .. ..	0	2	

1884.

„ 77. W. A. Pick, convertible rat-trap or rubber pedals for velocipedes .. ..	0	4	
„ 569. H. P. Lavender, locks .. ..	0	4	
„ 1910. J. Whiteley, needles for sewing machines .. ..	0	6	
„ 2270. A. Martin, lamps for burning mineral and other oils .. ..	0	6	
„ 2864. T. B. Loney, tricycles .. ..	0	10	
„ 3301. E. Gilyard, locks .. ..	0	4	
„ 5022. A. Reutershaw, scissors .. ..	0	4	
„ 5078. W. R. Lake, ball bearings for bicycles and other velocipedes .. ..	0	4	
„ 5083. W. R. Lake, velocipedes .. ..	0	6	
„ 5088. T. E. Powell, teapots .. ..	0	4	
„ 5487. H. H. Lake, pocket knives .. ..	0	4	
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„ 5563. J. B. Peter, stoves and fire-places .. ..	0	4	
„ 6063. F. Besnard, lamps .. ..	0	6	
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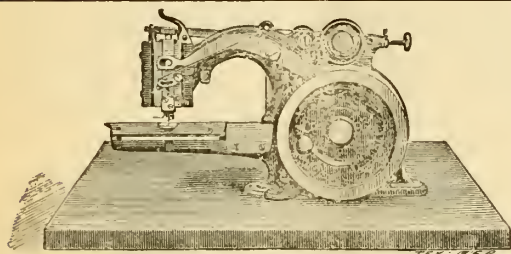
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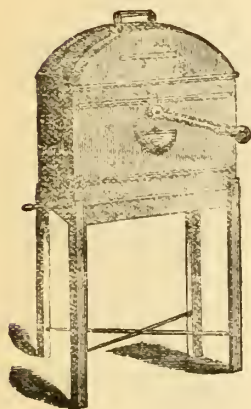
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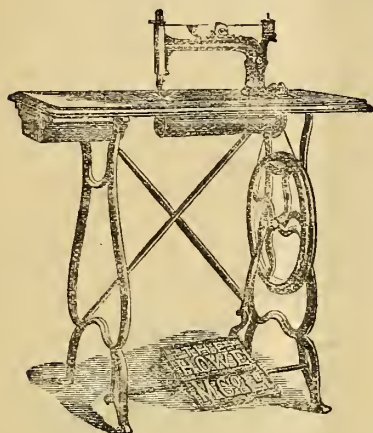
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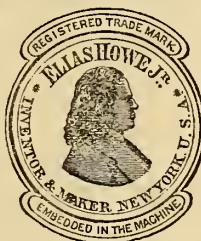
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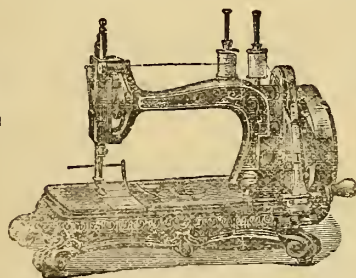
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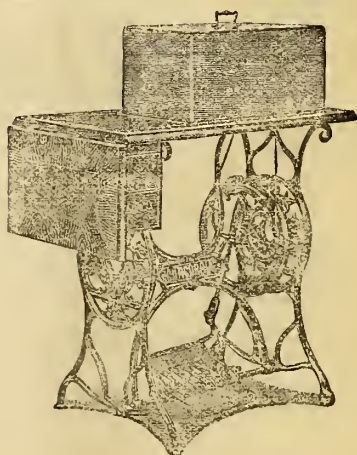
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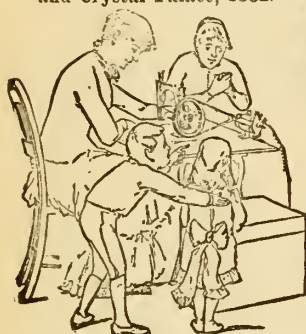


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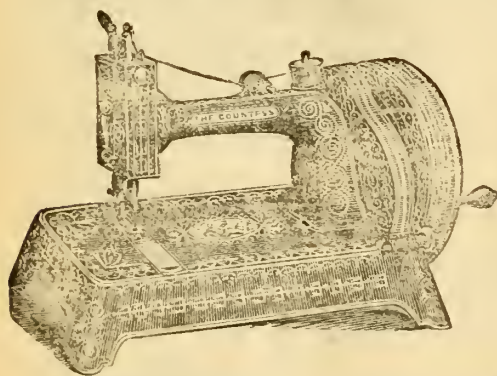
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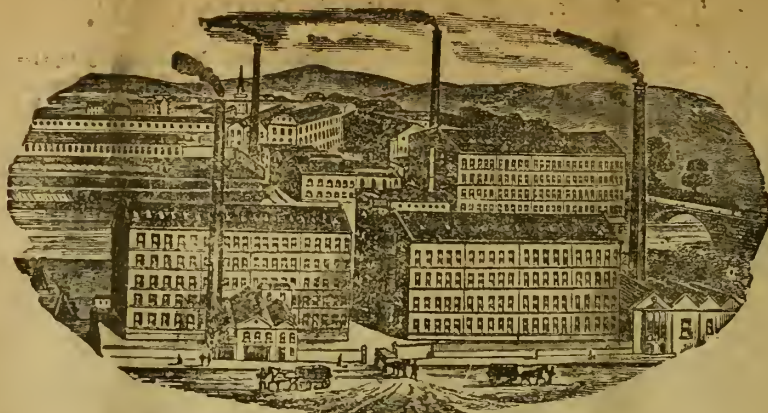
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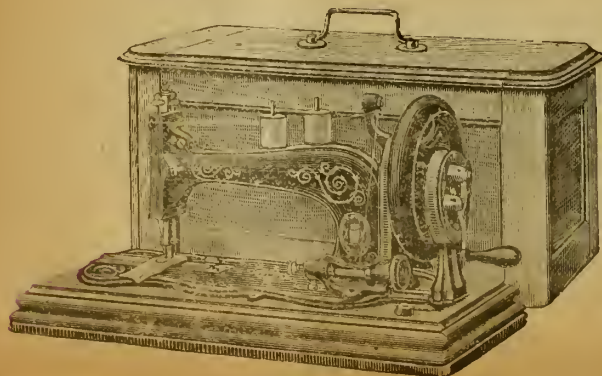
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For Domestic and Manufacturing Purposes,

TO WORK EITHER BY HAND OR FOOT.

These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

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I. On the sum of £ : s. d. being paid to \_\_\_\_\_ in \_\_\_\_\_ instalments of £ : s. d., the first instalment to be paid on \_\_\_\_\_ and each subsequent instalment at the expiration of each succeeding \_\_\_\_\_ the \_\_\_\_\_ to belong without further payment to the undersigned.

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Dated this \_\_\_\_\_ day of \_\_\_\_\_ 18

Signed \_\_\_\_\_

6d. STAMP.

Address \_\_\_\_\_

Witness to the above Signature \_\_\_\_\_

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The above Agreement is constructed on one originally drawn up by Lord Coleridge, the Lord Chief Justice of the Common Pleas, which was submitted to Sir Hardinge F. Giffard, Her Majesty's Solicitor-General, who is of opinion "that it confers no right in equity any more than at law to the goods in question, and consequently does not require to be registered under the New Bill of Sale Act."

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MANUFACTORY:

CLEVELAND, OHIO, UNITED STATES OF AMERICA.

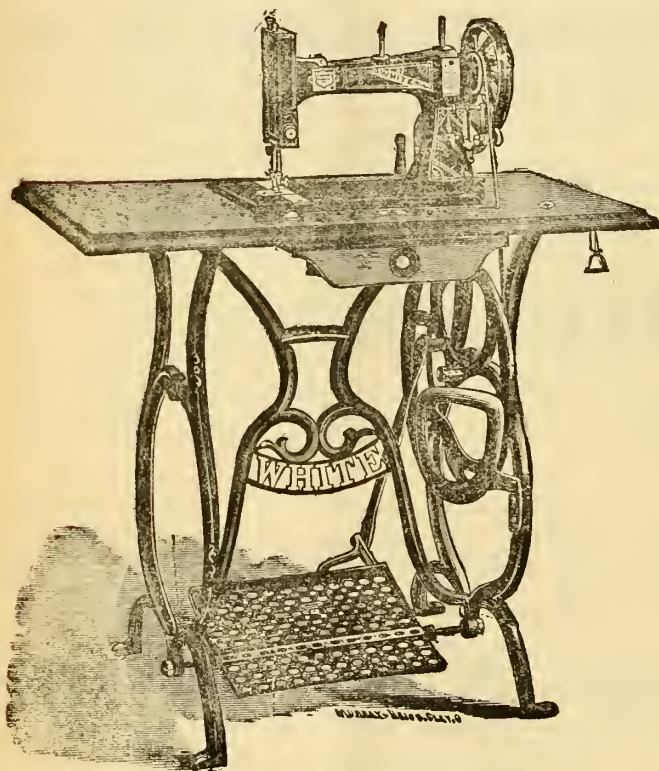
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19, QUEEN VICTORIA STREET, LONDON, E.C.

Manufacturers of the Justly Celebrated

## WHITE SEWING MACHINES,

*The Popular Favourites for Noiselessness and Easy Treadle Movement.*



THE IMPROVED WHITE MACHINE.

UNPARALLELED

SUCCESS

OF THE

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SEWING MACHINE.

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MANUFACTURED AND SOLD EACH DAY.

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*Liberl Terms to Responsible Dealers and Agents.*

All Sewing Machine Agents, Dealers, and Operators are invited to call and inspect this—the latest Improved and Best Silent Lock-Stitch Shuttle Sewing Machine—or send for Pamphlets, Circulars, etc., to

## WHITE SEWING MACHINE COMPANY,

19, Queen Victoria Street, London, E.C.

## RECENT IMPROVEMENTS IN SEWING MACHINES.

BY THE AUTHOR OF "SEWING MACHINERY."

(Continued.)

LET us suppose, therefore, that the shuttle is closed upon the spool, *h*; the threading is simply effected by hooking it into the delivery eyelet, *g*. It will be observed that from the beak, *c*, to the point, *a*, the body of the shuttle forms an arc of a circle to the extent of 150 degrees. This portion of the shuttle is enclosed in an annular raceway, and is maintained in position by a shuttle driver, to be further spoken of. The beak, *c*, is formed as represented, and being caused to pass near to the needle, cannot fail to enter the thread bight. Miss-stitches are thus certainly avoided. At *f* is shewn a screw controlling a spring directly behind. This spring or plate serves to press upon the shuttle thread in its passage from the bobbin to the eyelet, *g*, and to impose a certain tension upon it. The extent of this tension may be regulated by means of *f*. The shuttle is made entirely in fine steel, carefully tempered.

FIG. 6.

FIG. 7.

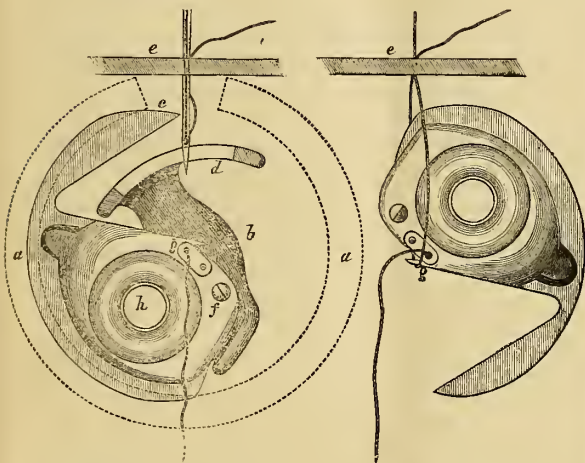


Fig. 6 represents the face of the shuttle, its guard ring or raceway, and its driver, *a a*, shews the arrangement of the raceway, which forms an annular chamber sufficiently deep to accommodate the width of the shuttle to the extent represented. It is cut away immediately beneath the throat-plate, *e*, so as to allow free scope for the ascent of the cast-off loops. *b* represents the driver, which is of peculiar form, and is mounted upon and oscillates with the central shaft. It bears upon the shuttle at two points, as shewn, sufficient clearance being allowed for the free passage of the thread-loops. At *d* the driver is extended, forming a narrow slot, into which the needle, in its descent, plunges. In the woodcut the near side of this slot is not shewn, for the sake of clearness. This arrangement forms both a shuttle-guard and an under-thread guide. For, if the needle be bent from its vertical path, the guard obviates injury to the shuttle, and guides the needle into the straight line. By these means it is permissible to make the shuttle point as thin and acute as may be required. It will be observed that in this view the shuttle beak is about to enter the thread-bight, *c*, formed in the ascent of the needle. When the loop is caught, thread is passed out from above, until it is expanded over the body of the shuttle, which meanwhile is travelling in a circle to the right. When the shuttle

has almost reached the forward extremity of its path, the loop is cast off, having entirely enclosed the shuttle. The result is the interlocking of the loop with the under-thread, which flows off at the centre of the arc of motion, as shewn at *g*. The under-thread flows away to the best advantage here, since twisting or chafing is entirely obviated.

Fig. 7, which represents the shuttle nearly at the extremity of its forward oscillatory motion, will serve to further elucidate the casting off of the loop and the enclosure of the under-thread.

This singularly ingenious form of shuttle is found to act with exceedingly small friction. It is also almost silent when in motion, and being bivalvular in shape, permits of a very high velocity being attained without impairing the side or breaking strain upon the thread.

Diverting to Fig. 1, which will serve to re-collect the various scattered fragments of the machine before the reader's eye, the action in forming a stitch is as follows:—The machine is "threaded" by first passing the thread downwards, between the tension discs represented as attached to the face plate. Thence it passes over the extremity of a weak thread-controlling spring attached to the tension stud; thence upwards, and through the extremity of the take-up lever, and finally downwards through the needle eye, from left to right.

Assuming the needle to be at its highest point, it begins to descend, the take-up lever meantime paying out slack thread by descending also. After it has attained its lowest point the needle begins to rise and to throw out in so doing a thread bight, as shewn in Fig. 6. Meanwhile the take-up lever passes this thread bight, is seized by the shuttle, and manipulated so as to be expanded over the shuttle, and the needle continues to rise. After the loop is seized, the take-up lever descends still further, paying out enough slack for the expansion of the loop. When the loop is fully expanded the take-up ascends rapidly, so pulling the stitch up into the fabric at the instant when the needle has attained its highest point. During the ascent and descent of the needle, and when it is so clear of the fabric, the feeder comes into play, moving the cloth forward the required distance for a fresh stitch. The form of feeding apparatus represented in the cuts is that known as the four-motion or drop feed, which is usually employed for cloth fabrics. For work in leather the feeder is usually circular, in the form of a feed-wheel. The periphery of the feed wheel is serrated or toothed. In conjunction with this a rolling or wheel presser is usually employed in place of the fixed foot used for cloth.

*The Oscillating Shuttle Machine in power driving.*—Probably the most important portion of the usefulness of the sewing machine lies in the near future, in its application on a considerable scale as driven by power instead of by manual labour. It will be generally admitted by those acquainted with the subject that there are manifold advantages to be derived from power-driven machines. But it is equally well known that hitherto great difficulties have been encountered in the application of power to machines really only intended for foot driving. One of the main drawbacks has always been the want of a sufficiently sensitive motion controller, so that a high, and consequently economical, speed might easily be applied to the machine.

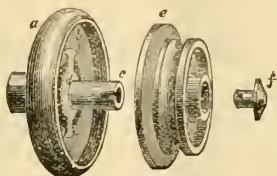
Hitherto, in the application of power to the sewing machine, the motion has generally been controlled by a pair of friction plates carried by the main shaft on the floor, and under the control of the operator's foot. This kind of controller is not efficient, and it is difficult to so regulate it as to produce sharp curves and short seams, etc. In short, the control is not sufficiently sensitive, and is situated too far from the machine to be perfect in this respect.

To overcome these difficulties, the Singer Manufacturing Company have had recourse to a most ingenious device, which controls, not the main driving pulley, but the balance wheel of the machine itself. The machine itself being the final and fastest motion in the system is incomparably more sensitive to change in the amount of power than the older friction-plate arrangement on the floor shaft.



The new apparatus or attachment consists essentially of a friction pulley in two portions, taking the place of the ordinary balance wheel

FIG. 8.



upon the machine. Fig. 8 represents the friction wheel taken apart. *a* shews the body or main part of the wheel, and *b* a recessed portion of the same, into which a thick disc of cardboard is fitted. *d* shows a flat spring, which suffices to keep the loose and driving portions of the wheel apart when the machine is not in motion. *e* represents the "loose" pulley, which runs upon *f*. This loose pulley is caused to rotate continuously at a given rate (averaging, for cloth work, 1,200 revolutions per minute) by means of a band from the shaft in the usual way. A conical stud, *f*, serves to keep the loose pulley in position. The fast and loose pulley is controlled by a bifurcated lever, moved by the foot, so that a downward pressure upon the treadle causes the running pulley to press against the machine wheel and cause rotation, *slow or fast, according to the pressure applied.*

FIG. 9.

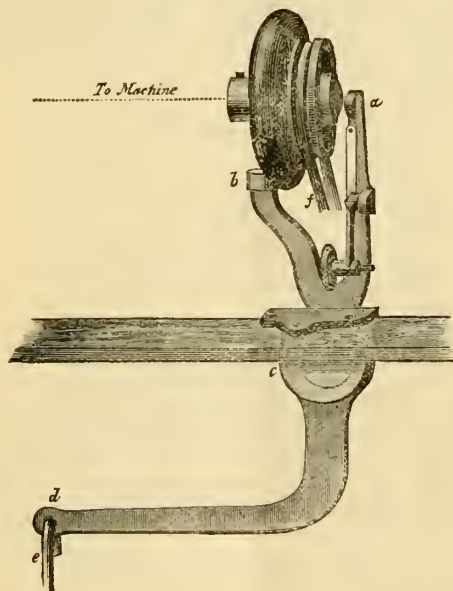


Fig. 9 will now elucidate the complete arrangement, showing the friction and break lever attached to the table or bench. *a* and *b* are the two extremities of a fork, movable upon the centre at *c*. The fork lever may be caused to move one way or the other by means of the lever, *d*, and treadle rod, *e*. The longer end of the fork applies and withdraws the pressure between the two portions of the pulley

the shorter arm covers a *break block* of wood, which, acting conversely to the longer arm, withdraws the break when the machine is started and applies it when stopped. The combined effect of these two levers places in the operator's power a complete and satisfactory control over every motion of the machine. The treadle is so arranged that pressure upon its toe causes the machine to start, and the reverse of this suspends its rotation. The velocity is accelerated to the fullest extent by pressing heavily upon the treadle. This new system of driving in conjunction with the oscillating shuttle machine renders the application of velocities ranging from 1,000 to 1,800 stitches per minute both practicable and economical, while the gain, as compared with foot treading, is never less than 50 per cent.—more commonly it is as high as 100 per cent.

## THE HEALTH EXHIBITION.

HERMANN LOOG (LIMITED).

At Stand 1,192, Western Arcade, Hermann Loog show Frister and Rossmann's "Celebrated Improved Singer and Wheeler-Wilson Sewing Machine, a large number of which have been sold on the European Continent. The proprietors state in their circular that they have sold over a million of these machines. Some are very applicable for boot and shoe work.

The firm are also sole agents for the newest Patent Straw Hat Sewing Machine, and have given much attention to a new Patent Embroidery Machine, as well as to their new Knitting Machine.

### THE "MARVELLOUS" STEAM WASHER.

Messrs Pearson and Co., of 9, Acorn Street, Bishopsgate, London, have some of their "Marvellous" Steam Washers on view. As is generally known, steam is recognised as a thorough cleanser and disinfectant. Accordingly, in reference to the machine shown by this firm, medical gentlemen have volunteered the statement "that for disinfecting purposes, it is the best machine that could have been contrived, as no germ of infection can survive the ten minutes in the hot steam." The *Lancet* also states, "These machines should be used in all public laundries, hotels, hospitals, baths, &c.

The principle of the machine is such that neither scrubbing nor rubbing is required, and therefore any young girl can get through a large washing in a short time. The water is set to boil in the steam washer, and is kept boiling by a gas or other burner placed underneath—and is continually throwing off a large quantity of steam, which forces its way through the clothes, carrying away every particle of dirt, and leaving the clothes spotlessly clean and delightfully sweet. As no boiler or coal is required, there is a saving of expense and the avoidance of smoke. The Domestic size, which is the smallest and cheapest made, will, we are assured, wash eight gentlemen's shirts in ten minutes; one double blanket in seven minutes; six tablecloths in ten minutes; four pairs of large window curtains in ten minutes; three pairs of sheets in ten minutes; thirty pairs of stockings in ten minutes; six print dresses in ten minutes; a tweed suit in ten minutes; all the cuffs, collars, fronts and lace in the house in ten minutes. The medium size will do half as much more, and the large size double quantity.

This firm are also the proprietors of the Acorn Hand Lock-stitch Sewing Machine.

### THE UNIVERSAL KNITTING MACHINE.

At Stand 1,221, Western Arcade, the Universal Knitting Machine Company exhibit a machine which they state in their circular to be the best and quickest in the market. It knits a full-sized ribbed sock in ten minutes, and is easily learnt. It obtained a silver medal at the Huddersfield Exhibition in 1883.

### GRISWOLD STOCKING KNITTER.

At Stand 1,224, where this Stocking Knitter is shown, Mr. Griswold states that it has the following improvements over the "Little

Rapid " and " Automatic," which he also invented, viz.: 1st, a new expanding set-up; 2nd, an improved arrangement of the working cams, by which all catching of the needles and breaking of the cylinder is obviated; 3rd, a positive lever take-up for the slack yarn, when knitting flat web, or when forming the heels and toes; 4th, an improved counter for registering the number of rows as they are being knitted; 5th, a new arrangement of gearing, by which, coupled with other improvements, a great increase of speed is obtained; 6th, a retracting out-throw cam for the ribbing attachment, to facilitate the forming of the welts at the top of socks and stockings.

We examined this machine closely, and consider that it has been brought to the highest point of perfection. It would be found very useful in the Colonies. The socks and stockings which we saw made by it have an evenness and finish equal to frame-made goods.

#### DASH-WHEEL WASHING MACHINE.

Messrs. C. Jéakes and Co., of 51, Great Russell Street, Bloomsbury, London, domestic engineers, have put up a large plant in the Exhibition. The machines are of the largest size, driven by machinery, and are made for hospitals, asylums, workhouses, infirmaries, public schools, hotels, the army, navy, and prisons. The name is Edward Clement's Patent Self-Reversing Dash-wheel Washing Machine. It is 6 feet in diameter, and consists of one outer case and an inner revolving cage, actuated by pulleys upon a centre shaft passing through the case. This central shaft is driven from a counter-shaft overhead, and fitted with a set of automatic striking gear, which, by means of a crossed and open strap, causes the inner revolving drum to reverse its direction at every three revolutions, thereby preventing the tendency of rolling up or balling the fabrics undergoing cleansing. The revolving cage, for convenience, is divided into four separate compartments, and all the clothes in each compartment is passed through the washing solution at each revolution. An outer door in the case provides access to each of these compartments, and the lower part of the outer case is provided with an emptying valve for running off the waste solution.

We have seen one of these machines at the Shoreditch Workhouse, where it gives full satisfaction. There is another at the Bethnal Green Workhouse, and there is no doubt that it performs a great amount of work in a short time, without injury to the articles washed.

#### PATENT AUTOMATIC FAMILY KNITTING MACHINE.

At Stand 2,114, Western Arcade, is the Little Rapid Family Knitting Machine, with a ribbing attachment, which we were told knits a pair of ribbed socks in forty minutes. It is certainly a machine which is easy to learn, owing to the simplicity of its parts, and as it is adapted for knitting all kinds of articles in wool, cotton, silk and merinos, it must be a desirable machine to any person who wishes to add to their income. The proprietors say that 15s. a week can be earned at home, as it will make 10 to 12 pairs of socks, or 4 to 6 pairs of stockings per day. We were shown excellent specimens of guernseys, bodices, underskirts, antimacassars, cosies for teapots, lamp and bureau mats, mufflers, fringes, cords, braces, fishermen's caps, ruching for tufted work for muffs, collars, cuffs, and indeed an endless variety of articles made by this machine. The proprietors, at 417, Oxford Street, W., sell the machine on the hire system, and offer to take work made by it.

#### ROTHWELL KNITTING MACHINE.

Mr. W. Rothwell, of Bolton, Lancashire, shows his new and improved knitter, five of which are in motion, at Stands 4 and 17, in Western Annexe and Arcade. The carriage of the machine does not take its bearings on the "gibs," or bed of the machine, but has the advantage of working in two paralld slides fixed at the bottom of the bed of the machine. As these slides are over seven inches apart, the proprietor says it is impossible for the carriage to shake

or vibrate sideways in its bearings, as in other machines, thus preventing the latch openers from catching, damaging, or breaking needles. This is a desirable arrangement, as all practical knitters know that a non-vibrating carriage is an important advantage for perfect work, as it prevents damage to needles, or split-stitches and bad work. Other improvements are claimed for the Rothwell machine. The tension cams are made of the finest steel, and can be tightly adjusted as required, as they work in a direct slot, instead of an eccentric movement. The yarn guide also travels parallel with the needles, which is an arrangement for avoiding the swinging motion and allowing greater speed in working. The indicator, or counter, is worked by a worm, which ensures regularity in the work.

#### AMERICAN DOMESTIC SEWING MACHINE.

At Stand 1,219, Western Arcade, the American Domestic Sewing Machine Co., of 15, St. Bride Street, Ludgate Circus, E.C., have several of their machines on view. They are described as "the largest armed and the lightest running machines of the age." They are made with automatic tension.

#### THE WHITE SEWING MACHINE.

This machine is becoming a great favourite with the public, and can be seen at Stand 1,222, where there is a splendid arrangement of articles made by it, in the production of which a machine made of the best materials and of most excellent workmanship is required. The floral work on yellow satin and velvet is captivating to the eyes of all ladies of taste, and in the central glass case there is a beautiful banner of blue silk, on which is worked a landscape, in the most elaborate and splendid style, representing the rising sun. The White Sewing Machine Company are certainly to be congratulated on this handsome display, which is an exhibition in itself of what can be done with a good sewing machine; and, for this reason, every lady will approve of the engraving shown at the stand, which represents Diogenes, who, whilst seeking an honest man, finds an honest sewing machine.

By a tabular statement issued at the principal European office, 19, Queen Victoria Street, London, E.C., it appears that in one year the company sold 26,689 more machines than the previous year. The figures are given to show the rising popularity of the White Shuttle Sewing Machine, and as a proof that all energetic dealers make it their speciality.

It is made for work of all descriptions, and, as an instance of its adaptation and convenience, we may state that from the base of the arm to the needle is  $7\frac{3}{4}$  inches, from the curve of the arm to the needle 10 inches, and from the cloth plate to bottom of arm 6 inches. The advantages of this large capacity we well recognised at the exhibition. The light-running was another point in which we were interested, and as to the simplicity, and we may also add beauty of its arrangements, the machine cannot be excelled.

#### DESIDERATUM SEWING MACHINE.

At Stand 1,194, are shown several of the Desideratum Lock-stitch Sewing Machines, manufactured by Messrs. J. L. Bramley & Co., London. A very explicit book of instructions is published by this firm, illustrating the work of the machine and the application of its accessories.

#### GREENALL'S STEAM WASHER.

In the Western Arcade, Stand 1,209, is seen a number of Greenall's Steam Washers. It was stated to us by the lady attendant that the machine saves its cost in three months, as it is quick in operation, and only uses one-fourth of the usual quantity of soap. It washes 16 shirts, 2 double blankets, 12 table cloths, 8 pairs of window curtains, 6 sheets, or 400 collars in ten minutes. The machine is copper-faced, and the internal work is of the revolving drum principle. It is erected on an iron stand, which can also be converted into an ironing stand when desirable. The cost of gas for heating is one halfpenny per hour, and with this arrangement no set-copper or boiler is needed. The water (three inches deep in the



machine, and one inch in the cylinder) is made to boil, and is kept boiling by a gas-burner, on which the machine rests. Thus, steam is continually rising and passing through the articles which have been placed on the cylinder. The dirt is carried off by the expansion of cold water, with which they are saturated, and, as the cylinder revolves, the clothes are always changing position, and the dirt is washed out and got rid of. The clothes are washed in steam, and are said to be found cleaner, whiter, and purer than when washed by any other process.

THOMAS BRADFORD AND CO.

These eminent manufacturers of laundry and dairy machines have a large stand or series of stands, in the principal Arcade, and near the Dairies. The laundry is well represented by a number of labour-saving appliances, foremost among which is the famous "Vowel" Washing Machine, in which of late several improvements have been made. The proprietors claim that a uniform colour of the linen can be much better maintained by regular washing with the "Vowel" machine than by any other method; and that ladies will find that such delicate things as fancy muslins and cambric dresses will be much better washed in the machine than by hand—and also that even fugitive colours can be more safely washed without fading (which it is difficult to avoid if soap be rubbed or washed by the hand), as the suds for the machine can be prepared just to suit the particular fabric or colour.

A number of Wringers and Mangles are also in this department.

A proper and convenient supply of hot water is, of course, essential to the successful use of a washing machine, whether in a large or small laundry, and therefore, for the supply of this we noticed that this firm exhibit a very compact arrangement of Clothes Boiler combined with water-heating apparatus, which gives not only a ready and requisite supply of hot water for the "firing" and "seconding" operations in the washing machine, but admits also of a more constant change of water in the copper in which the linen is boiled. This is essential to the purity and good colour of the linen. As soon as the water becomes dirty, it can be replaced by fresh boiling water from the reserve cistern.

We were shown a new Rinsing and Bluing apparatus, which must be of great service.

A Centrifugal Drying Machine is another apparatus worthy of mention. Its principle is to extract moisture from the linen, which greatly tends to its purification and sweetness. Two examples are shown doing a large amount of work daily for the Exhibition.

## MATERIAL AND WORKMANSHIP.

For the material used in sewing machines we must always rely upon the honesty, reputation and good intentions of the maker. It is impossible to look inside of a shaft or casting, though very often superiority may be shown in finish, which to a superficial judgment would be a guarantee of quality. Manufacturers employ different mixtures of cast metal for different parts of machines, making those parts which have to do the most work and bear the most strain, of different mixing, and carefully casehardening bearings.

The labour bestowed upon a machine is an important item and cannot always be seen from the outside. There is a very great difference between accurate and merely superficial work—and for thorough and honest work reliance must be placed upon the manufacturer.

The true character of material and workmanship comes to light in time and with use, and makes or unmakes the reputation of a machine and those who manufacture it.

Those sewing machines which have secured and hold a world wide popularity are not merely those which have the most ingenious devices in their construction, but those which have also a standard reputation for good material and excellent workmanship—and such a reputation every company which expects to remain in the business for an indefinite period and make money should strive to acquire.

## Correspondence.

### OUR NEW YORK LETTER.

#### THE NEW ORLEANS WORLD'S FAIR.

NEW YORK CITY, U.S.A.

July 14, 1884.

OF course, we may once in a while step out of the usual groove of the Sewing Machine and Hardware Trade, to gaze upon the other wonders of both the European and American world. The great coming event of New Orleans, to be called "The World's Industrial and Cotton Centennial Exposition," threatens to vie with all others that have been; and as you shall have ample opportunity to perceive, there is ground to presume that, at the time of its real existence, it may prove one of the "nine great modern wonders of the world." This I can say with honest candour, from the full enjoyment of an opportunity presented for visiting the Crescent City, for the purpose of personal observation. In regard to the spirit prevalent upon the spot, a great wave of genuine enthusiasm pervades the whole community, the South and North seemingly drawing closer together in the bond of nationality, that is to know no future severance.

Brought face to face with the gentleman in charge of the erection of the building, your correspondent found himself in the presence of Major E. A. Burke, Director-General of Construction, a man who seems blessed with excellent executive ability, combined with a courteous manner, closely allied to a quick grasping of all details; capable of a penetrating conception which enables him to put them through in the shortest possible time, commensurate with beauty and solidity at the same time. It is to occupy 240 acres; the grounds, to be accessible alike to steamboats and railways, are beautifully located on the bank of the river just outside of the city limits. The U.S. Senate has agreed to loan £240,000 to the Exhibition; Mexico is to spend £40,000; New Orleans gives £20,000, all the States in the Union contributing according to the will of the different legislatures; so that in the main I presume the total cost will be £400,000 at the least.

The main building as laid out, and under construction, has three front facings:—1. The main frontage of 1,500 feet facing towards New Orleans; 2. A side frontage of 900 feet facing the river banks; 3. This frontage is similar in length, etc., looking towards St. Charles Street; the back of the structure faces towards Carrollton, and will be devoted to railroad tracks, boilers, and the like, the whole may be styled a 1,500 feet rectangular; but this does not include other structures in process of erection. Upon close inspection, I find the view (interior) will be somewhat broken, because the design is somewhat irregular, which, though it may yield 1,398,300 square feet to the floor of the building, only 1,048,752 square feet can possibly be utilized for real exhibition purposes, the other portions being required for offices, rooms, etc., which will be undoubtedly needed.

Starting from the city to the grounds, one passes through beautiful gardens, and parterres of flowers, to stand in front of a *facade* not unlike the Louvre of Paris, being so much like it in height, width, and architectural finish; three pavilions standing forth to a distance of 25 feet, each of them being 300 feet in length; in the centre of the middle pavilion is the grand entrance to the building proper, which is to have no less than 16 means of ingress and egress; the structure has to be ultimately elaborated with high towers, domes, long panelled windows, and so forth before completed. In the front are 52 large windows 10 feet by 15 feet each, rounded off at the top and ornamented; between each of these is a medallion containing the coat of arms of one State to each.

The grand entrance, so far as I can judge from present progress, will be a magnificent affair, 35 feet broad, crowned with an arch 58 feet high, above which rises a dome 100 feet high, with small turrets on each side of it; similar though smaller towers are in the plans; but the first is to have an elevator to convey visitors aloft for the purpose of viewing the grounds. In fact, I feel confident this front when completed will present a face equal (in beauty of ornamentation) to any palace in the world.

Passing under the lofty archway, I find myself in a vestibule, on either side of which (in the pavilions) are baggage, police, and other offices; passing by them, we enter the doors beyond to gaze upon those portions of the structure devoted to exhibitors—immediately the eye revels up and down the aisles of the building, stretching away to 1,500 feet from where one stands—almost a quarter of a mile. In front of one, about 100 feet from the entrance, is the music hall, 300 feet deep and 64 feet wide, capable of containing 12,000 people, under a beautiful parti-coloured glass tile ceiling, 87 feet high, in front of a stage large enough to hold 600 persons; otherwise, we found the building just now perfectly plain, free, open, and without wall or break of any kind, except the pillars supporting the roof. The galleries, 37½ feet wide, extend down the sides, well lighted by window and skylight. Ultimately, I found myself in "Machinery Hall," through the centre of which railroad tracks are laid. One of the wonders of this department is to be a dancing cataract, through which the people will be able to pass without getting wet. The virtual pavilions are commodious and suitable; the arrangements for lighting by day and night are so admirable, that I do not think it injudicious to say they will prove the best yet known to the history of World's Fairs.

The Horticultural Hall is the largest structure ever yet built and devoted to Horticulture in America, I find it situated 600 feet from the main building, on an eminence, the centre of surrounding avenues, and trees of many varieties, presenting a structure 600 by 100 feet, with a glass tower 90 feet high, representing (so to speak) a sort of crowning glory to the base; in and around this sacred spot, the Southern States, Mexico, and other Republics of South America intend to show each other and the world what they are capable of in horticultural and agricultural displays in positive living form, and I presume there will hardly be found enough room to suit every requirement, and demand; but everything appears to me as it should be, with just a little margin left for unforeseen extra demands.

By what I can see and learn, this New Orleans Exhibition is altogether an entirely different affair from those of Philadelphia and other late American ventures of the kind; it has had the benefit of general popularity throughout the Western hemisphere, which all others have seemingly lacked. It is a praiseworthy undertaking, in the shadow of which every section of the United States almost are expected to meet and for ever extinguish every smouldering spark of ancient sectional strife. Here the different parts of the earth are friendly summoned to meet on the first Monday in December, 1884, to see the grand display of throwing open the doors of this structure to all the world—even far-away Australia being invited to enter and run for a prize—for the Fair will not be closed, unless by unavoidable accident, before May 31, 1885. I note that every advantage has been taken to improve in all points where other American Exhibitions have fallen behind in their relations with exhibitors.

To the sewing machine world this coming Exhibition would present a fair and open field for the exhibition of the merits of every European and American make claiming to excel others, or competent enough to compete for honours. Many of our firms are already providing for the occasion in a very quiet way—no two of them knowing what point each will advance for securing any of the awards to be given. By all means, then, let English, German,

French and American manufacturers meet on a neutral plane at New Orleans, and give the world just one chance to convince itself which of them is the most advanced. But this brings me to something new in our own lines. I had no sooner arrived from New Orleans than I found at home what the American literary people style a "close call" to see a new

#### ELASTIC MOTION SEWING MACHINE.

on exhibition at 54, Pine Street, New York. Here I found a member of the Bell Publishing Company, owners of the *United States Sewing Machine Times*, had got in before me, and was examining the infant prodigy with all the solicitude a genuine, well-wishing sponsor could exhibit. After a pleasant nod of recognition, shake, &c., &c., why your *Sewing Machine Gazette* correspondent undertook to play second sponsor to the *Times'* first part. In taking up the youngster, we found it to be a well-constructed affair—carefully adjusted—admirably useful—light-running—novel and desirable in speed and perfection of work. True, it struck us as making the Wilcox and Gibbs stitch, though, unlike that machine, it has a large "roomy" arm, with its bed plate on a level with the table; it is pivoted in the centre, so as to "tip up" lengthwise, making it very convenient for cleaning or oiling the under parts. Now here comes the "creese"—the bed of the machine actually rests upon *elastic spring cushions*, to prevent the noise and jar so prevalent in other machines when run at high speed. It has an automatic tension of great simplicity, yet reliable enough to do away with the anxiety peculiar to the care necessarily attached to adjusting ordinary tension devices.

The workmanship displayed in the production of the head, shows that it could only have come out from a well equipped factory, while the stand, in my judgment, may rightfully rank as one of the most graceful yet placed upon any market of the globe; that, too, while the treadle, pitman, and stud fitting are unexceptional for accuracy and thorough work; then the novelty of having the stud bearing rest on a spring cushion base, proves itself, in this particular general device, most invaluable to the ease of continual operation, which is the grand aim of sewing machine makers.

In company with the gentlemanly *Times* man, we crossed the river from New York to York Street, in Brooklyn, to inspect the workshop of the Elastic Motion Machines, to find an establishment where general order and consequent convenience reigned supreme, the machinery and tools being all of the most approved and advanced character, comprising all the general as well as special aids necessary for the production of every part identical with the production of Elastic Motion Sewing Machines. There are other intricate matters I would like to give you but that want of space forbids. However, the enterprise is in good hands, and your correspondent will keep a close watch upon developments, with the intention of reporting progress and novelty to you.

The staff of the first organised company is as follows:—President, W. S. Silcox; Vice-president, J. A. Bartow; Secretary and Treasurer, A. S. Bartow; with W. S. Silcox, J. A. Bartow, J. S. Cooley, E. B. Lansing, Henry Snyder, and A. S. Bartow, for Directors. Mr. P. Baylor is the General Manager, a gentleman well known to the trade, having formerly been manager in the "White" New York office for several years, he having recently severed his former connection to accept his present post of official duty, and for which we all think him duly qualified as a level-headed man, who knows what he is about, and that consequently there must be money and a good living in this new enterprise.

#### THE NEW HIGBY SEWING MACHINE

Is another venture for public patronage, for which Mr. Handy will stand responsible. It is made, or built, by the Higby Sewing



Machine Company, of Brattleboro, Vermont; is of the high-arm class, with vibratory shuttle, the method of communicating motion to the shuttle being the chief point of novelty. It contains most of the modern improvements, including loose hand-wheel, self-setting needle, and stitch-regulator; but the needle-plate is the second novelty, having, as it has, a patented stationary gauge attached to the same, which is claimed to be of great assistance to operators. The feed is double, the whole mechanism working with quiet, easy movement. It is handsomely produced, in furniture and equipment; is a simple, well-made, easy-running (but not a wonderful) machine, adapted to many kinds of work.

#### THE SACKETT MANUFACTURING COMPANY.

Of whom I made mention in my last, have, owing to the great demand for their goods, become an incorporated organisation, with a working capital of 50,000 dollars, divided into 2,000 shares of 25 dollars each. Thirty-two thousand dollars have been paid in, a fine factory secured and stocked with the necessary machinery of the best description, at Wallingford, Conn., where they now claim to have every facility for supplying all future demands for their attachments, more specially for the Sackett Scolloper, which is having a larger sale than ever all through the country. I admit that American depression of trade has been great enough at times to make one feel dubious of the future. But it was necessary. It was not created by panics; was not realised from general bankruptcy; nay, it sprang up like as effects follow natural causes—it was the offspring born of our manufacturers and dealers looking ahead into futurity and putting their hands very suddenly on the brake with a "Down brake!" cry, to avoid the calamities I have mooted in the third sentence of this part of my letter. Yes, it was a stop at the right place with safety behind them, and just the possibility of a dull season in front of them. They saw a presidential year before them; they see that England is disposed to make the best of India and Australia, as wheatfields and so on; they see and deplore the great need of the nation minus a genuine merchant marine of its own; they see and confess the uselessness of feeding a foreign carrier, for the ostensible purpose of extending a commerce not wholly their own; hence, no wonder dealers, manufacturers and exporters paused, and while studying the problem proposed to themselves to economize in every department until Congress should solve the riddle. In doing this we may count upon no less than 10,000,000 buyers and sellers out of a population of 50,000,000, who reduced all the expenditures they could to a minimum, each individual keeping not less than £100 (as an average for the whole) from the previously active capital of the country lying idle; manufacturers avoiding over-production, and dealers steering clear of over stocking themselves—supply was tied down to only positive demand. But it kept, at least, 1,000,000,000 of dollars from the usual streams of commerce and trade; true, but the fear of over-production has been reduced, threatened bankruptcy avoided, and the counter-diplomacy of Europe in a measure recognised and countersigned.

Diversity of production is now the coming plan of action; home markets are to be the standby of the future. True, again, the late depression, from which we have hardly yet recovered, was painful to endure with, so much idle capacity and capital around us; but happily the latter is falling back into the stream little by little, to be carried Southward in new enterprises having in view the creation of new centres of population, new markets, and new commercial relations with the South American countries, the work commencing, as it were, with Mexico, to be extended to Chili, Peru, Bolivia, Colombia, Ecuador, Brazil, Paraguay, etc. where I presume the Germans will meet with a grim competitor, when the commerce of the United States shall have secured a merchant marine large enough to enable them to avoid the employment of foreign carriers. This is all public sentiment, peculiar alike to the Sewing Machine as well as other interests and industries of the country. The Crops are another feature of encouragement to every state and community. In

one of the most extended tours lately made, the reports are glowing; the same areas may not be so large under wheat, cotton, etc. as heretofore, but what there is in sight is *promising*, and if the yield does turn out as the coolest of calculating heads try to figure, we shall have enough and some to spare for export, but none to rot at Chicago awaiting English or German terms for freight. I really believe some of the foreign carriers have overshot the mark to the extent of hurting themselves, or why so many idle ships on one side of the Atlantic and so many sleeping bushels of old wheat on the other? At all events, the Sewing Machine trade is looking forward to quick sales and easy collections just as soon as the inevitable good times are assured beyond doubt.

## AMERICAN PETROLEUM v. THE PETROLEUM OF THE WORLD.

[By kind permission of the Bell Publishing Company, from the advance proof-sheets of "The Whole World's our Field," now running through the columns of the United States Sewing Machine Times, of New York City.]

In looking this modern petroleum giant in the face, we find, from recent statistics, that there are 20,000 producing oil wells in Pennsylvania, yielding at present 60,000 barrels of oil a day. It requires 5,000 miles of pipe line and 1,600 iron tanks, of an average capacity of 25,000 barrels each, to transport and store the oil and surplus stocks. There are now nearly 38,000,000 barrels of oil stored in the region in tanks. This oil would make a lake more than one mile square and ten feet deep. The money actually invested in petroleum production, since 1860, is estimated to be more than \$425,000,000, of which \$200,000,000 was capital from New York City. Since 1880 more than \$12,000,000 has been used in building iron tanks, and nearly as much in pipe lines, all by one corporation. The tanks cost on an average \$8,000 each. A 35,000-barrel tank is ninety feet in diameter and twenty-eight feet high; 100 tons of iron are used in constructing one. The annual loss from lightning by the use of iron tanks is very great, as they form an attractive path to the earth for electricity.

The speculative transactions in petroleum represent more than \$400,000,000 annually. The lowest price crude petroleum ever brought was ten cents a barrel, in 1861. In 1859, when there was only one well in existence, Col. Drake's Pioneer at Titusville, the price was \$24 a barrel. Besides the 5,000 miles of pipe line in use in the oil regions, there are in operation 1,200 miles of trunk pipe lines connecting the region with Cleveland, Pittsburgh, Buffalo and New York, and lines building to Philadelphia and Baltimore. In the line between Olean and New York 16,000 barrels of oil are transported daily. These lines are all the property of the Standard Oil Company, except one between Bradford and Williamsport, Pa. The Standard employs 100,000 men. The product of its refineries requires the making of 25,000 oak barrels of 40 gallons each, and 100,000 tin cans holding five gallons each, every day.

#### THE HOME OF THE MODERN PETROLEUM INDUSTRY.

Decidedly the United States have been, thus far, the home and sole originator of the modern petroleum interest. But whether the bulk of the capital that first gave it life was purely American or partly foreign, we will not stop to consider, though bound to confess that there may have been a race for the "cornering" of the earlier market between British and American adventures. Let that be as it may, the Standard Oil Company have managed to assume control of the upper deck, with British influence, seemingly, thrust below hatches, as it were. For a time, the Standard Oil Company, who are claimed to hold even the very railroads of some sections of the country, have sown and reaped, and are still reaping—not the whirlwind yet—but the result of success. But we are told that Professor Raymond, who assumes to be an authority in the matter, has

come forward with the thrilling estimate that must surprise the great American monopoly, for he claims most emphatically, "that the known present supply of petroleum in Pennsylvania and New York will, in course of necessity, be exhausted in four years. Says the *Scientific American*: "This prediction the oil producers do not accept; they seem to expect the perpetual revival of old wells; revivals having sometimes happened after temporary exhaustion. The oil region in these two States comprise 4,259 square miles, so there is a good deal of internal space for recuperation. But it may be assumed that these subterranean reservoirs of oil are capable of being exhausted; they are not infinite; the only question is, whether there is any satisfactory data by which to gauge their contents. Prof. Raymond's prediction may not prove correct, but the theory of inexhaustible supplies is obviously a fallacy. Production, from 82,000 barrels in 1859, has now reached 30,000,000 barrels a year, and the stored supply on hand is now equal to a year's consumption."

#### RUSSIAN PETROLEUM.

In view of such a thing (even as a rumour), Russia and Austria are looking on with a keenness that is remarkable; the first having, as it thinks, enormous regions of oil beds in reserve, needing only the proper amount of capital and experienced manipulators and extractors to develop the same, which it might offer to dispose of to a Yankee or other monopoly at a very dear price, providing it kept British influence and money out of all possibility of controlling the same. That would probably crush the Standard Company, whose present magnitude is assumed to be wonderfully great.

Is England asleep? Nay, she is on the watch, ready for the spring, at a moment's notice; for, just as we might claim to be waiting for the exhaustion of Welsh and other British iron beds, so has she been waiting to meet the coming possible exhaustion of American oil regions. In this matter, as in the wheat theory, she is preparing to take advantage of any situation that may offer, and from the facts we may honestly presuppose that she has allowed us to develop a petroleum trade first, as an experiment, to pave the way for her own reserves kept in store untouched; but by recent doings in India she is compelled to show her hands as if declaring to Russia, "If you think to get the better of the petroleum problem, you will have to fight me for it!"

#### INDIAN PETROLEUM.

Hence, by London advice, under date of June 13, we learn that the Indian Government (acted upon by imperial authority), upon the recommendation of the Commission recently examining the petroleum yield of that country, has decided to open trade to that commodity with European ports. The Commission reports the supply of petroleum inexhaustible, and its quality good. Thus India is again pushed to the front to do double duty against Russia and the United States at the same time, as if there was something in the Standard Oil Company monopoly, or Russian diplomacy, about which she will stand no nonsense; and so, to cripple the one, or humiliate the other, she means to do a big trade with an assumed inexhaustible source of commerce to go upon. It is just possible, if the Standard Oil Company had not "cornered" the trade, India's reserve might have remained untouched for years to come. The Suez Canal might reduce the stretch of carriage for the product between the place of production and the common mart.

#### CANADIAN PETROLEUM.

But most sagacious of British commercial potentates and financial princes, why go to India for what is lying around in waste thousands of miles nearer home? For has not Captain Wm. Kennedy, the Arctic navigator, openly declared, "that in the neighbourhood of Lake Athabasca, in Northwestern Canada, there is a great store of petroleum running to waste?" He says: "The oil springs have overflowed the surface of the country for a space of more than forty

miles, and running down to the river, the oil is carried to the lake, where it floats on the surface. The only use at present made of it is by the Indians boiling it to the consistency of pitch and using it for coating canoes, etc."

Decidedly the region in question must contain an oil of the same chemical volume as that of Pennsylvania, though not appreciated (as of the same value), because not so equally known or tested by the expert testimony of continued experiment.

Surely, some one is blind if Kennedy's statements are true. Or, is it that India is mentioned while Northwestern Canada is the field intended to be worked? In this latter phase, with the wealth of England at its back, the oil region of Northwestern Canada might become a terror to the Standard Oil Company, from the fact of the source of competition being nearer home. These oil sources are similar in emotional volition to that of lava beds. When one becomes inactive, the other is in full activity. Those regions of oil in Canada are of the same family with those of Pennsylvania and New York; and, allied by some underground channel and chemical process; when those on this side of the St. Lawrence are seemingly exhausted by reason of not yielding, those on the other side will spout according to the earnest desires of men; but only for a season, during which the region on this side will have recuperated, after five or six years, inactivity, to former yields on regular tapping. Hence the law of nature is somewhat in favour of the British scheme as opposed to the American Standard Oil Company, who should at once cease from developing too much from a given area, when there are so many other and larger regions waiting their turn. Again, in attempting to "corner" the coming oil trade, you might as well try to "corner" the globe itself, which, perhaps, would be the easier in view of a possible combination between Russia and Great Britain—a great monopoly may live for a time—but always within the reach of a something, or power not contained within itself, especially when, to grasp all, it drives other establishments out of the field, keeping millions of money from doing healthy work in the world of commerce and trade.

The *Standard's* Paris correspondent was lately informed that no information to warrant the statements which have been published in New York about the Panama Canal had been received by the board of directors, who are highly satisfied with the progress of the works. Moreover, the company's chief engineer, M. Dangler, embarked at Colon for France on the 2nd inst., to submit to the board the programme of the works to be executed next year, and also to attend the sittings of the superior consultative commission. As to the statement that M. de Lesseps contemplates abandoning the Panama Canal on account of the difficulties he has to surmount before it can be completed, it is, the correspondent adds, only necessary to say that M. de Lesseps is the last man in the world to abandon an undertaking he has commenced. The *Paris Bourse*, a financial journal, is therefore justified in saying "that the report is devoid of foundation. That difficulties have to be surmounted is easily comprehensible; but matters are following their regular course, the engineer's expectations having been fully borne out."

WHAT will be the most powerful steam crane in Europe at least—and we are not aware that our kinsfolk on the other side of the Atlantic can beat this—is to be erected shortly at Hamburg. We have a 100-ton crane at Woolwich, but the largest crane at present is that at Antwerp, capable of lifting 120 tons. As, however, Krupp is building up gun-barrels weighing 124 tons, the Antwerp Hercules would be powerless to move them. There is at present a steam crane at Hamburg, in operation, which lifts 40 tons only; the next in size on the Continent is that at Brømerhaven, of a lifting power of 60 tons; and the next largest is located at Amsterdam, lifting 80 tons. The new Hamburg steam crane will beat them all; it is being constructed to lift a weight of 150 tons.



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## FOREIGN COMPETITION.

**A**TENTION has again been called to the effects of foreign competition—particularly the German—on the English hardware trade. The branch more especially affected is that of small hardware, as egg-beaters, coffee and sad-iron stands, brackets, bells, handles, &c., and including many small household articles hitherto considered here as purely American specialities. The exertions of our German competitors, however, are not confined to the smaller ware, for many other branches, and notably the sewing machine department, have given scope for their indefatigable attentions. Not alone the home markets, but distant fields, considered in some sort the special property of English manufacturers, have been flooded with the products of German workshops, while Continental neighbouring lands, as Spain, Italy, Portugal, and, in part, France, are closed, or almost closed to us by their efforts.

It is now some years ago that the Germans undertook the task which was to end in creating home manufacturing industries for their fellow-landsmen. Deeming, as they had a ground for deeming, that their country had the right to provide for itself, and also to share in the trade of the world, they set about the task of providing their unlearned handicraftsmen with the knowledge which decades of internecine misgovernment had robbed them of. To this end, besides other purely educational means, English skilled workmen were engaged at high salaries as overlookers to instruct and guide the raw levies of the native craftsmen. Under their guidance the modern industries of Germany have taken their rise, and even now exist. With the products of their workshops in only rare cases are original conceptions ventured on, their exertions being confined, for the present, merely to an almost Chinese-like imitation of the products of more highly skilled lands. This explains a good deal the characteristic which is found to be common to almost all German products—viz., a striking, oft-times unrecognisable similarity to English or American productions, combined with a most disappointing result in the direction of lastingness, or utility. This, however, we may believe, is only incidental to the learner stage of the German handicraftsman. There must come a time when the German workman shall overcome these defects; and then he will prove a more dreaded foe than he now is. At present there is one advantageous element on his side, which he has known how to make the most of. This is the cheapness of food and labour in Germany. By means of this he has been able to offer imitations of more or less merit with a chance of success, because of their lower cost. To sum up the position, the strength and weakness of the German competition is its cheapness and its lesser lastingness and usefulness.

It is wise to look an evil squarely in the face, in order to find a remedy for it, or gauge our plans and preparations to withstand it. It is also plainly best to meet a foe when he is at his weakest; and the Germans, whatever they are now, are sure to reach a higher standard of execution and excellence by the simple force of constant practice. Some of our greatest modern industries have risen from like small beginnings, and by exactly the same wise of importing foreign workmen and under-selling, by cheap, but relatively inferior, goods, costlier and more perfect articles. Cheapness, moreover, is a natural factor in trade, and must be reckoned with.

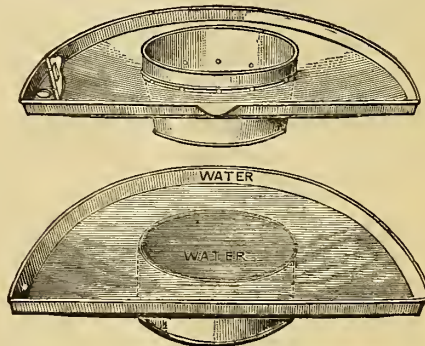
The character of the foe opposed to the English hardware trades being known, it behoves English manufacturers to take up an energetic course of action, and meet keen edge of competition with keen edge. The main principles that govern all business are excellence and durability of workmanship, and cheapness. To this should be added publicity. In this latter we fear English manufacturers have allowed themselves to be outrun by their German rivals. We doubt, for instance, whether the

German market is so well known in all its details to the English manufacturer as is the English to the German, and this not to speak of the Spanish, Italian, and other markets. Nevertheless, in this industrial competition, the two first and most important qualities the English wares already possess in a high degree—we will not say perfect degree, for it is dangerous in this day to say anything is perfect. Having, then, these two advantages as a start, why not go forward and meet the German competition on the other two grounds? The superiority of the nimble sixpence over the slow shilling still holds good. For single specimens of any given article it may be impossible to undersell our opponents; but why not compete by numbers at a low rate? Transactions on a large scale, at a cheap price, joined with more perfect means of publicity, in which is included the finding out and understanding of the wants of every market, home or foreign, we are firmly convinced is the wisest means of effectually opposing, at the present time, a competition that is already formidable, and may become decidedly dangerous.

### NEW GOODS.

#### DOUBLE WATER DRIPPING-PAN.

THE presence in the upper rooms of gentlemen's houses of bad smells from the kitchen, where that department is not in a building apart from the rest, has always been a source of annoyance and discomfort, the exhalations from the cooking viands commingling with the odours of flowers, and detracting considerably from the enjoyment of the rich surroundings. This drawback has now been remedied by the invention of a new dripping pan, which effectually prevents the creation of the principal cause of these objectionable smells. The pan, which is brought out by Messrs. Groom, is the patent of Mr. Brown, and consists of a double pan, instead of the usual single

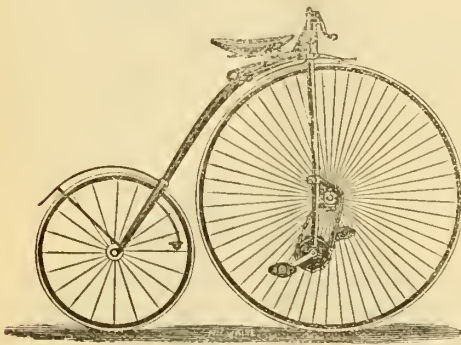


pan. The lower pan being filled with water, keeps the upper one cool, and causes an immediate congealing of the fat as it falls, while at the same time effectively hindering the burning of the fat in the over-heated pan—the general cause of the creation of the offensive smells. The engraving represents the two pans, which fit one in the other. In the upper pan, on the left, is an aperture to replenish or supply the lower with water, so that no inconvenient removal is needed. The invention is applied to the Double Jack Screens, and the old-fashioned pan can be adapted to its use by Messrs. Groom, at a small charge. We have seen it in working, and it seems to answer all demands made of it. The invention is provisionally patented and has been named the "Double Water Dripping-Pan."



## A NON-PITCHING BICYCLE.

WE have recently examined the "Kangaroo," or Safety Bicycle, manufactured by Messrs. Hillman, Herbert, and Cooper, of Coventry, and find that it deserves special notice, owing to a new principle introduced in its construction, by which riders are not subject to being pitched forward should the driving wheel come in contact with any obstruction. Unfortunately for bicycle-riders, large gratings are sometimes put down on roads and streets, having their bars in a direct-wise instead of cross-wise position. As a consequence, the driving wheel of the bicycle slips down several inches according to the length of the bars of the grate. In such circumstances, the bicycle is suddenly stopped, and the rider pitched forward on to the ground. There are other ways by which pitching may be produced, such as coming in contact with a large stone or a brick. It has occurred, therefore, to Messrs. Hillman, Herbert and Cooper, to construct a bicycle which shall modify, if not actually prevent, this jerking forward in cases of accident. This they have done by placing the bearing-bars of the saddle a few inches behind the axle. Of course, in cases of collision with an obstruction, it is the axle which first and most severely feels the concussion, and therefore riders of bicycles in which the saddle is perpendicularly above the axle, and resting upon it, feel all the force of the sudden stoppage, whether the accident is foreseen or not. We think, therefore, that this improved arrangement, as explained to us at the London depot of the firm, 14, Holborn Viaduct, is deserving of attention, inasmuch as it minimises a common source of accidents, and always reduces their severity.



There is another advantage obtained by the lateral position of the saddle, which is, greater power of treading, the feet being before the saddle, as are those of a person sitting comfortably in an ordinary chair. The position of the feet is likewise nearer the ground, which gives the rider two additional advantages—ease in mounting and facility in dismounting.

It sometimes happens that improvements have a drawback; but there is nothing of this kind in the "Kangaroo." It is equal to any bicycle in swiftness.

We were shown a most flattering testimonial which has just come in from a champion rider, who speaks highly of the machine for its speed, and as a splendid hill-climber. A large number of other testimonials have been received from amateurs. The driving wheel is made of various sizes—36 in. is the ordinary size, but it can be geared to 48 in., 54 in., or 60 in., at the option of the purchaser. To explain the speed of the "Kangaroo," we have only to say that the driving wheel goes twice round with one revolution of the treadle. This is a special and unique advantage, whilst it carries the rider forward to a greater distance and with less exertion than when using other machines. It also appears evident to us that persons who are weak-chested, and feel the exertion of riding an ordinary bicycle, will ride this machine without physical prostration.

## WORKSHOP AND HOUSEHOLD HINTS.

THERE are two ways of imitating black walnut—one is by staining pine or light coloured wood with Vandyke brown or burnt umber mixed with oil, and afterward varnishing. Another is by painting first a light ochre colour, in oil, staining when dry with water colour made up of Vandyke brown, umber or any suitable pigment. When this is dry, varnish with copal, damar, amber or any resinous turpentine varnish.

THE following is an excellent sewing machine oil: A mixture of one part of finest paraffine oil with three or four parts fine olive oil. For lubricating finer machinery combine paraffine oil with vaseline. To make it, melt one part vaseline, and add to it seven part of paraffine oil; cool thoroughly, and allow the cloudiness which takes place to clear off by depositing, decant and use the clear swimming oil.

To get the weight of a bar of round iron multiply the square of the diameter in inches by the length in feet and by 2.63, and the product will be the weight in pounds, avoirdupois, nearly. For square iron multiply the area of the end of the bar in inches by the length in feet and by 3.36; the product will be the weight in pounds, avoirdupois, nearly. For a bar of round cast steel multiply the square of the diameter in inches by the length in feet and that product by 2.67. For square cast steel multiply the area of the end of the bar in inches by the length in feet and that product by 3.4. The product will be the weight in pounds, avoirdupois, nearly.

A CEMENT for fastening blades of dinner knives in handles, consists of resin, four parts; beeswax, one part; brick-dust, fine sand or Spanish white, one part. Fill the hole in the handle with the cement, heat the tang of the blade and press in.

CABINET work of the finer description requires a more than ordinarily lustrous polish. The following is recommended as an effective polish for delicate work: Of linseed oil half a pint, and the same quantity of old ale, the white of an egg, one ounce of spirits of wine and one ounce of spirits of salts. It should be well shaken before being used, and a little should be applied to a soft linen pad and lightly rubbed off with an old silk handkerchief. If kept in a bottle well corked this polish will keep any length of time.

## LUBRICATORS.

FOR the running of small machinery, such as the sewing machine, the vegetable and mineral oils are inferior to the animal for purposes of lubrication, but it is claimed that mineral oils have been found to be the best for the lubrication of large machinery. Experiments upon heavy bearings, whether used at high or low velocities, has given the weight of testimony in favour of mineral oil. An authority upon the subject says that all vegetable and animal oils are compounds of glycerine with fatty acids: when decomposition sets in the acid is set free, and the oil becomes rancid and attacks the machinery—a serious evil where a large quantity of oil is used in contact with the metal. All animal oils gum more or less, and when a quantity gets gummied the machinery is clogged. Petroleum and other mineral oils are gradually coming into use as lubricators of heavy machinery, opening up quite a new market for their consumption, and a profitable one.

A SIMPLE but useful innovation is about to be introduced into the French Post Office system. It is proposed in future to stamp all letters by machinery. By this means it is hoped that time will be saved, and that the imprint of the stamping office may be made clearer than by the present system of stamping by hand. The machinery to be used has been tested, and is said to give the most satisfactory results.

## TRADE AND GENERAL NOTES.

MR. WANZER is at present in London, and will stay for a few weeks, after which he intends to return to Canada.

THE Singer Manufacturing Company have just placed in the front of their stand at the International Health Exhibition, a splendid and wonderful specimen of chenille floral work, which is greatly admired.

MR. W. PRYOR, Ironmonger, has removed from 51 and 53, High Street, Kingsland, to new premises, specially erected, at 3, High Street, Kingsland, E.

MESSRS. C. GALLI & Co., Ironmongers, of Mill Hill, Leeds, having dissolved partnership, the business will be continued by Mr. C. A. Galli.

MESSRS. R. POWELL & SON, of Birmingham, are opening a new branch establishment at 41, Pride Hill, Shrewsbury, as a retail ironmongers.

MR. J. H. HEWS, ironmonger, of Ottery St. Mary, has purchased the old-established business of Mr. S. J. Pile, ironmonger, Fore Street, Sidmouth.

THE principal home and export mantle and costume manufacturing firms have not yet begun outgiving for the autumn season; but a week or two will see most of them fairly started. The direction the fashions are said to be likely to take is towards the President shape of jacket; and prices are fairly good for the workers.

MR. BLAKEY has made some further experiments on velocity of air in tubes of fine bore, and obtained several interesting results. The velocity of sound in air decreases with the bore in a fairly regular manner. Thus, with a tube of 11.4 millimetres in diameter, the velocity was only 324.28 metres per second, whereas with a tube 88.2 millimetres in diameter the velocity was 330.13 metres, or very nearly that in free air. The best pipes or tubes to use for the purpose are those in which the upper proper tones are in harmonic order, or, better still, those in which they were far removed from the harmonic order, or dissonant.

"AN Indian Merchant," who has just returned from India, sends a letter to the *Standard*, in which he says, "I am surprised at the prices English people are continuing to pay for their bread. Indian wheat has fallen within the last eighteen months some twenty per cent. in value, and thirty per cent. since the end of 1881. What proportionate fall has there been in the price of bread, or has there been any fall at all? Wheat has hardly ever been so cheap as it is now, and there is no fear of any serious advance. You have every promise of a bountiful harvest in England. America is almost assured of a good yield, while there is plenty of wheat in India; so retail bakers have not the excuse of the probability of any advance in the price of flour. In India also there is almost an unlimited supply procurable of the nutritious hard red wheats, which will be available for the use of the Londoners when they at last learn that colour should be no object in bread."

SEVERAL instances of deaths and fires from accidents arising from the explosion of lamps burning various mineral oils have been reported lately. The causes of such explosions have been fully ascertained, and it would be well for public safety if they were more widely appreciated. While the faulty construction of lamps is the cause, possibly, of a few explosions, it is in the character and quality of the oil which is used that the reason for the bursting of lamps is mostly to be found. There is no risk whatever in burning animal or vegetable oils, neither is there any danger of explosion in the use of lamps burning petrol and other mineral oils, if care be taken to burn only good oils. The cheapest mineral oils are dangerous, because they frequently give off highly explosive gases at comparatively low temperatures. The sale to the public of dangerously explosive products in the shape of low-priced mineral lamp-oils ought to be effectually prevented.

THE great competitive tests which have taken place at Copenhagen during the last twelve months to decide the comparative merits of Sheffield compound and all steel (Le Creusot) armour plates have resulted in the complete victory of the compound system, and, as a consequence, the contract for the whole of the plates required for the Danish war vessel *Iver Hørfeldt* has been placed with Messrs. Charles Cammell & Co. (Limited), Sheffield.

AT a recent meeting of the Berlin Physical Society, Professor Vogel gave the results of his years of work and renewed attempts to obtain coloured photographs. Sensitised plates are only affected by the more refrangible rays; hence blue comes out white, and yellow and red, black. He has, however, at last succeeded in obtaining in eosine, and more especially its various derivatives, colouring substances which scarcely possess more than a broad absorption band in the yellow, and which led to the desired result. When these bodies were mixed in due proportion with the dry gelatine plates, the yellow of the coloured objects already appeared quite clear on the photograph; but the blue was still always brighter. Herr Vogel inserted between the object and the camera a yellow glass, which partly absorbs the blue rays while leaving the yellow unimpaired, and obtained photographs in which the blue, as well as the green and yellow, and partly even the red parts of the coloured objects, presented to the observer's eye the same vivid effects as the original.

A WOMAN'S Trade Association, (Limited), with a capital of £10,000, in shares of £1 each, has been started, to afford suitable employment for ladies of limited means, and an establishment has already been opened at Tunbridge Wells. It is something like a dressmaking and fancy stores, in which only ladies, whether in the shops or workrooms, shall be employed. The Association will sell materials for embroidery, or any dressmaking requisites, and employ ladies as needlewomen, or as agents for goods, giving 10 per cent. on sales privately made, or will take the fancy work of ladies for sale on a commission of 2d. in the shilling.

THE case of Pearson v. Pearson, tried in the Court of Appeal last week, decides a question of great importance to tradesmen purchasing or parting with the goodwill of a business. The point in dispute was whether a person who has sold his share of a business under an agreement that he should not be restricted or prevented from carrying on or exercising a similar business under his own name at such place as he should think fit, can legally solicit orders for himself from the customers of the old firm. The Court has decided that he can.

THE Directors of Messrs Chubb & Son's Lock and Safe Co. lately set apart a portion of their manufactory at Glengall Road, Old Kent Road, on which is to be built a coffee tavern, dining and reading rooms, for the use of their work-folk.

AT a meeting held lately at the Mansion House, to consider a scheme proposed by Commander Cameron, R.N., to establish in the City a Commercial Society of Geography, Commander Cameron explained that the principal objects of the society would be to collect from all parts of the world information of a geographical character which might affect commerce. A library of reference and a map-room easily accessible to City men during business hours formed part of the scheme, while a museum of raw and manufactured products would be so arranged as to give information as to where they were produced, manufactured and sold. Another object would be to support commercial geographical explorations. In addition the promoters of the society proposed to afford means for the special education of clerks in the City and officers of the mercantile marine in the subject of commercial geography. He referred to the knowledge of commercial geography possessed in Germany, and stated that it gave that empire much advantage over Great Britain in commercial competition. After various speakers had spoken, a committee was appointed to make arrangements in accordance with the aims of the promoters.



MESSRS. WADDELL AND MAIN, gas cooking and heating stove makers, of Glasgow, having dissolved partnership, the business will be continued by Mr. R. Main, under the title of R. and A. Main.

MR. A. OWEN, of High Street, and Chester Street, Wrexham, has disposed of his old established ironmongery business to Messrs. Rogers and Jackson.

PHILIM GRANT, 37, a packer, of 160, Goswell-road, has been sentenced to six months' imprisonment, with hard labour, for stealing from 109, Farringdon-road, a quantity of electric telegraph apparatus, value £28, the property of the Consolidated Telephone Construction Company (Limited), his employers.

A NOVEL plan for the distribution of power comes, it is said, from Birmingham. The idea is to establish central stations from which compressed air may be dispensed to workshops and other places where power, either in large or small quantities, is required, thus enabling the user to employ his motor without the necessity of keeping up a steam or electric plant. It is said that compressed air can be furnished cheaper than gas. The company undertaking this enterprise will put down two powerful engines which will supply a minimum pressure of 45 pounds to the square inch throughout the extent of their mains, which will be run through the principal streets of the town and to the suburbs. This power can be used not only in factories for running motors, but also in the household, where sewing machines, laundry machines, and many small appliances are employed. An innovation like this, if found to be practicable, would work an economical revolution in manufacturing industry.

SPECIAL attention has during the past year been devoted by the principal of the laboratory of the Board of Inland Revenue to the character of the enamel linings of cooking utensils used in the Royal Navy. It is well known that most of the enamels contain considerable quantities of lead and arsenic, in a condition easily acted on by vegetable acids, and many of the specimens analysed were found to consist of the enamel and glaze of dishes suspected to contain those metals. The results showed the necessity of the examination, for many of the enamels contained dangerous quantities of lead and arsenic, and proved that most of the utensils could not be recommended to be used with safety, while a few showed that it is practicable to prepare an enamel and glaze free from hurtful substances.

SOME valuable and interesting additions have recently been made to the exhibition now on view at the stall of the Framework Knitters' Company, in the old London Street at the "Healthies," and on Saturday afternoon last the Master (Mr. W. Creasy, C.C.), Mr. Warden Boyes, Mr. Past Master Bohm, Mr. Past Master Dowden, Mr. Past Master Capel, Mr. D. W. Bell, Mr. T. Bell, Mr. Chappell, and other members of the Court, attended to personally inaugurate the display brought together in the upper chamber. Interest centered in the exhibition of a pair of old gold stockings actually worn by Queen Elizabeth in the early part of the sixteenth century, whilst hard by are coverings which graced the royal leg of George III.—the one pair being singularly slim and delicate in texture, the other of that massive build which one would expect to fit the portly "understandings" of the eighteenth-century monarch. The one is lent by the Marquis of Salisbury, the other by Messrs. I. and R. Morley. Again, to the left of these two cases is a dish-cover lent by the London Taverns Company, Fenchurch-street, formerly "Ye King's Head." Peter Cunningham in his handbook says: "Queen Elizabeth on leaving the Tower on the 9th of May, 1554, dined off pork and pease at 'Ye Old King's Head,' and where the actual dish and cover used on the occasion is still to be seen." In the various cases around the room are some exquisite instances of stocking-making in silks of the most delicate structure, lent by Messrs. I. and R. Morley. Gauntlet gloves

dating back to the year 1785 (lent by Mr. J. H. Cooper, of Leicester,) show that the present fashion is, like so many other matters affecting dress, simply a revival and improvement. Nor must mention be forgotten to be made of stockings worn in Ross's Antarctic exploration, lent by Sir J. H. Hooker. An ancient belonging to the Company, dating back to 1618, and old carved cabinets, lent by Mr. Past Master Bohm, are worthy of inspection, as is also a capital painting of the London street, executed for Mr. Past Master Bohm by Mr. A. de Breanski, an artist and Framework Knitter.

ACTION was brought by Mr. H. T. Griffen, carrying on business in Leadenhall-street, under the name of Goy, against Mr. G. Balls, of Savoy-street, Strand, to recover £5 6s. 7d., balance of the value of a tricycle purchased by the defendant's son on the hire system. The evidence went to show that after some £10 of the money had been paid in instalments the defendant said he had got tired of the machine, and accordingly asked the plaintiff to take it back. This the plaintiff agreed to do on the condition that it was in good repair and that the defendant should forfeit the money he had paid. A man was sent by the plaintiff for the tricycle, and he alleged that it was not in good repair, the tyre being off one of the wheels. Robert Balls denied that such was the case, and stated that he had only ridden the machine about twenty times, and he had never travelled more than thirteen miles on it at a stretch. For quite two months before the man was sent for it the tricycle had been kept in a dry stable and well cleaned. The jury gave a verdict for the plaintiff for £5 6s. 7d.

THE old country fashion of home brewing, which showed so remarkable a tendency to revive a few years ago, appears to be again rapidly declining. After the passing of the Beer Duty Act a great number of persons who did not formerly brew took out licences for private brewing, under the impression that they could thus obtain beer at a less cost than they could purchase it from the brewers. The operation of brewing, however, is troublesome in an ordinary domestic establishment. The Commissioners of Inland Revenue express the opinion that it cannot be conducted economically on a small scale, and that no doubt many of these persons have found it more convenient to revert to their former practice of obtaining beer direct from the brewer. Is there not here a chance for an ingenious man to invent or contrive a handy machine for facilitating household brewing?

THE returns of the Board of Inland Revenue now show beyond a doubt that reply cards are not in much esteem among the English public. At first there was clearly no inducement to give them a trial, for in the year ending March 31, 1883, nearly 2½ millions were issued for home use, besides 169,500 foreign reply cards. In the succeeding twelve months the issue of home cards fell to 755,940, and of foreign cards to 29,700. Doubtless many of the stock of the former year remained last year on sale. Meanwhile the demand for single cards, both thin and stout, as well as for postal wrappers, is well maintained.

IT is interesting just now, when every one is talking of the enormous prices obtained for pictures, books, furniture, and faience at recent sales, to recall the sums which were paid at one of the most sensational sales on record—that of Charles I.'s pictures. Every one knows that the Raphael cartoons were saved to the nation at a cost of £300. Correggio's "Antiope" fetched £1,000; the "Venus del Pardo" of Titian, £600; Raphael's "St. George," £150; and a "Portrait of a Young Man," likewise by Raphael, £200. Titian's portrait of Charles V. was sold for £150; as also was the same painter's "Herodias with the Head of the Baptist in a Charger." One of the highest prices realized at the sale—£1,000—was paid for Correggio's "Apollo Playing Marsyas," which is now in the Louvre. Rubens' allegory of "Peace and War," now in the National Gallery, was literally "given away" for £100.

THE PRICE OF WHEAT—No wonder the farming interest is in a depressed condition, and that landlords are complaining that they

cannot get their rents in. From a return of the average price of corn, issued by the officers and inspectors of Excise, in the week ended June 7, we find that the price of wheat per quarter was 37s., as against 44s. 11d. in 1880; 44s. 8d. in 1881; 47s. 9d. in 1882; and 43s. 4d. in 1883—being a falling off in value of over 16 per cent. With such a depreciation as this it will hardly pay our colonies and foreign countries to ship here just now. But while the farmers are suffering, someone must be making money, for notwithstanding the low price of wheat the public find there is no appreciable difference in the price of the 4-lb. loaf. It may be added that a similar depreciation for the years stated has taken place in the price of oats and barley.—*European Mail*.

## RAILWAY EXTENSION IN RUSSIA.

IN the Journal of the *Ministry of Finance* some interesting information has been just published with reference to the railways of Finland. These lines are, in a very quiet and yet energetic way, being extended, not only with profit to the Government, but with comfort and benefit to the people. The cost of the line from St. Petersburg to Helsingfors has been 42,537,375 marks, and the Government during 1883 made a clear profit of over 6 per cent. on the working, but as this capital was raised by the issue of obligations, this line gave the Finnish Government about  $7\frac{1}{2}$  per cent. in 1883 on money invested. The line more recently made, from Abo to Tammerfors, &c., cost 20,305,000 marks, of which 1,561,284 are already paid off, and this line gave nearly 3 per cent. profit in 1883. The other line, Hangöhead, commenced by a private company, was bought by the Government; in 1883 there was a gross loss on the working of 42,614 marks, but it is very likely to pay in 1885. Seeing the good results of the lines already established, the Finnish Senate have voted 1½ million marks, to commence at once on the line from Willmanstrand, to join up to the line going from Rickimäki to the St. Petersburg line, and also another 1½ million marks to commence a line joining the existing lines to the important town of Björneborg. The principle in Finland is cheap and well-made lines—no loans.

In Russia there has just been raised a loan of 15,000,000l. sterling for railway purposes, and, so far as it can be exactly ascertained, it would seem that this large sum has been already half expended, and that the other half is intended for the carrying out of works long since projected, such as the extension towards Siberia, by the Tumen line, the opening up of the Donetz coal district, the Krevie Rot Iron district, the Bashkunchasky salt district, &c. But to put all our railways now lingering for funds into a proper position we require at least another such loan. At the present time the whole length of railways open in Russia is 22,211 versts, and adding 1,107 versts in Finland, and 217 on the eastern side of the Caspian, we have only, in this large empire, 23,535 versts, or 16,000 miles.

The Council of War have ordered that from July 1, the small arms works at Sisteretz and Ijefskoy shall cease to be carried on as private works, but are to be placed under the orders of the Artillery Department, for providing rifles and small arms of all kinds. In the notification of the Ministry it is said, "The Committee appointed to receive the works from the contractors are to note that these works are no longer required to import steel for barrels, and other raw materials, from abroad, but that the works will be handed over to the Government with every appliance for supplying steel, &c., equal to that of any English or Styrian establishment," and it is added, "The attention of all chiefs of works connected with the Artillery Department is called to this fact, that tool-steel need not now be imported for any purpose."

Russians, for the moment, are not pleased at the Government allowing raw naphtha to be exported, but it is well known that the managers of Messrs. Rothschild's establishment at Fiume, on the Adriatic, have arranged to receive from Messrs. Nobel, of Bakou, all

the raw naphtha required to keep the distillery, &c., going. It will be sent via Tiflis and Batoum. At the present moment one firm in Saratoff has 15,000,000 pounds of grain ready to dispatch, *i.e.*, 250,000 tons, and if our transport charges were more moderate we could supply larger quantities abroad, but it seems that India is a cheaper producer than Russia.

It is stated that the principle of imposing a duty on agricultural machinery has been agreed to. In his estimates the Minister anticipated an increase of ten millions of roubles under this head, and it is understood that the particular items he relies upon are sole leather, coal, and pig iron; but the consequence of increasing the duty upon the latter is to render it impossible for Russian manufacturers of agricultural machinery to face foreign competition, so that Lincoln and Ipswich are to be handicapped for the benefit of Moscow and the Russian agriculturists, who are already in difficulties owing to American and Indian competition.

## THE INVENTIONS OF FIFTY YEARS.

It almost staggers belief to think of the improvements which have been made in labour-saving machinery. The number of inventions that have been made during the past fifty years is unprecedented in the history of the world. Inventions of benefit to the human race have been made in all ages since man was created; but, looking back for half a hundred years, how many more are crowded into the past fifty than into any other fifty recorded in history! The perfection of the locomotive and the steamship, the telegraph, telephone, audiphone, sewing machine, photograph, chromo-lithograph printing, the cylinder printing press, elevators for hotels and other buildings, the cotton gin and the spinning jenny, the reaper and mower, steam thrasher, steam fire-engine, the improved process for making steel, the application of chloroform and ether to destroy sensibility in painful surgery cases, and so on through a long catalogue. Nor are we yet done in the field of invention and discovery. The application of coal, gas and petroleum to heating and cooking operations is on the verge of successful experiment, the introduction of steam from a central reservoir to general use for heating; and cooking is foreshadowed as among coming events; the artificial production of butter has already created a consternation among dairymen; the navigation of the air by some device akin to our present balloon would also seem to be prefigured; and the propulsion of machinery by electricity is even now clearly indicated by the march of experiment. There are some problems we have hitherto deemed impossible, but are the mysteries of even the most improbable of them more subtle to grasp than that of the ocean cable, or that of the photograph or the telephone? We talk by cable, with an ocean rolling between; we speak in our voices to friends a hundred miles or more from where we articulate before the microphone. Under the blazing sun of July we produce ice by chemical means, rivaling the most solid and crystalline production of nature. Our surgeons graft the skin from one person's arm to the face of another, and it adheres and becomes an integral portion of his body. We make a mile of white printing paper, and send it on a spool that a perfecting press unwinds and prints, and delivers to you, folded and counted, many thousands per hour.

## HOME AND FOREIGN TENDERS WANTED

MR. J. H. STAFFORD, Secretary, Hunts Bank, Manchester, is prepared to receive tenders, up to 25th August, for all the cast and wrought ironwork required in connection with the alteration of level, new lines and stations, viaducts, and other work on the Lancashire and Yorkshire Railway.



The Mexborough Local Board are prepared to receive tenders, up to August 4th, for two high-speed air compressing engines and receiver, two Cornish boilers, two Stone's patent injectors, cast iron pipes as sewage main, and wrought iron pipes as air main, and the laying and fixing of same. Plans, &c., of Mr. G. White, Market Hall, Mexborough, up to 2nd August.

The Municipal Commission, for the City of Bombay, want tenders, up to August 6th, for the supply of 5,800 tons of cast iron pipes, occupying from 29 inches downwards, as well as other ironwork. Conditions of Messrs. Oliver, Corbet Court, Gracechurch-street.

The Royal Artillery Depot at Danzig, are prepared to receive tenders up to the 6th August, for the delivery of 4,750 kg. of bar sulphur.

The Royal Railway Direction at Magdeburg are prepared to receive tenders, up to the 2nd August, for wire and insulators for telegraph purposes.

The Imperial Railway Direction at Strasburg, in Alsace, are prepared to receive tenders, up to 4th August, in two lots, for 120 cast steel locomotive wheel bands, and 240 Martin or Bessemer steel wheel bands.

The Royal Railway Direction at Bromberg are prepared to receive tenders, up to the 6th August, for cattle trucks; also tenders, up to the 7th August, for axles and springs.

The Central Administration of the Prefecture of the Seine are prepared to receive tenders for the lamp oil needed for the years 16th August, 1884, to the 16th August, 1886. Approximate amount, 28,000 lit.

The Gas Works of Berlin are prepared to receive tenders of designs for street lamps. Then, prizes are offered. Particulars, Herr Cuno, Berlin.

The Municipality of Laon are prepared to receive tenders for a heating and ventilating system, and also for the fitting up of water and gas services in their National School, now in course of erection. Tenders are likewise asked for the supply of forms, &c., and other furniture and fittings for the class and other rooms.

The Royal Betriebs Telegraph Ober-Inspection of Dresden are prepared to receive, up to August 6th, offers for supplying 30,000 kg. of galvanised iron wire, and 6,000 porcelain insulators.

THE ABTH.-BAUMEISTER Storbeck, of Melsack, East Prussia, is prepared to receive, up to August 5th, tenders for supplying 15,019 running metres of fence-wire, and the necessary appurtenances, in 3 lots. 75 pfennige are to be enclosed for particulars.

## HEALTH NOTES.

NEW SANITARY DANGERS.—It would seem that as soon as we have discovered and guarded against hitherto unknown dangers in our sanitary organisation, new ones are recognised of even more formidable character. The ubiquitous bacterium, which proves to be the germ of so many obscure diseases, has been found by M. Parize, a French savant, to take up its abode in brick walls, not merely between the interstices of the wall, but in the actual substance of the brick itself. Noticing some peculiar mark on the outside of the wall, he scraped a little off and placed it under a magnifying power of 300, the result of which was to show myriads of organisms moving about with extraordinary activity. It was the more singular that this red dust had been covered with a layer of lime a quarter of an inch thick. Under the impression that the bacteria might have been a superficial deposit, M. Parize then drilled a hole into the very centre of the brick, and, to his great surprise, discovered that the powdered material was full of the same living organisms, although not in such large quantities as in the external layer. To make sure that this was not an exceptional brick, he carried on his experiments at various places in the walls—and always with the same result, that the bricks were more or less impregnated with bacteria, which appear to flourish equally well in

a brick wall as in a saucer of some fermenting substance. There can be very little doubt but that woodwork is often a source of danger from the same cause, a perplexing malarious fever having been traced by the medical men of San Francisco to certain decayed foundations and wood floors, which abounded so in that city, and which, when taken down, were found to be swarming with organisms.

ONE-MARK VACCINATION.—Among the best ascertained points in the matter of vaccination is the fact that the protection afforded is in proportion to the number and size of the vesicles produced, which leave pitted cicatrices. This being so, the parents of children who wish to have them well-vaccinated should desire their medical men not to vaccinate in less than four places. The Germans vaccinate in six or eight, and, by so much, more efficiently than we do. Medical men should disabuse patients of the exploded idea that one successful insertion is efficient vaccination. It is only the next thing to being unvaccinated, and is a condition full of risk to the welfare of the patient and to the credit of the practitioner. Where, unfortunately, only one or two insertions succeed, the parents should be advised to have the operation repeated in a few years, especially when small-pox is about. We fear there are some practitioners who hold to the efficiency of one-mark vaccination. We are told that in one provincial town anti-vaccinationists take their children to a practitioner who vaccinates in a solitary place. We thought that such practitioners could not now be found. They must be too tender in their feelings. But they should remember that they are discharging a very responsible and public duty unfaithfully and inefficiently. Satisfactory vaccination means such vaccination as "takes" well in four places.

BUTTER.—Whatever may be thought of the nutrient value and purity of "butterine"—and the chemists certainly wish us to believe that it is superior to ordinary butter—there can be no question as to the utter carelessness of public duty and indifference to public health shown at the Board of Trade in this country by permitting the English market to be systematically supplied with "deodorised spoiled grease, fatal to infants, and distinctly influencing the death-rate," in the guise of butter. The Senate of New York is, happily for our cousins across the Atlantic, *not* too busy with other matters to bestow a passing thought on "the health of the people." When will the time come that we of this legislation-worried land shall begin to enjoy the blessings of domestic peace? The ceaseless din of the political tinker's hammer is for ever rattling in our ears, while our lives are lived under conditions as regards food and physic which, if Parliament were not preoccupied, must needs bespeak attention and absolutely *provoke* measures of sanitary reform. It is to be confessed we are losing heart. It seems to matter little, if anything, which party is in power, "burning questions," outside the domain of urgent domestic policy, monopolise attention, and the people may go begging for protection for health and measures of prosperity and happiness at home.

POISONOUS FISH.—The inquest concerning the death of Mrs. Dewen and her son, who died on the 21st ult., after having eaten tinned salmon for supper, was concluded at Wolverhampton yesterday. The medical evidence went to show that the fish was in a diseased state, owing to the condition of the tin, which had allowed the entrance of air. There was no proof of metallic poisoning. The jury returned a verdict that the deceased persons died from poisoning, arising from the decomposition of the food which they had eaten. A minute portion of the salmon given to mice caused their death in a few hours.

THE PREVENTION OF BLINDNESS.—The action of the Ophthalmological Society of the United Kingdom, in taking steps to bring about some diminution of the present large amount of hopeless blindness caused by the ophthalmia of early infancy will, we feel confident, meet with the general approval of the profession. Blindness is for the individual a catastrophe, and for the community a

grievous burden. The statistics just collected by the Society fully confirm the result arrived at by the investigation of twenty-two blind-asylums in Germany; one-third of the inmates of these asylums, both in Germany and in England, would be in full possession of their sight but for the terrible consequences of a disease which is among the most certainly curable of all diseases. We hope the Local Government Boards may be induced to accede to the proposed plan by which the relieving officers in England, and the inspectors of the poor in Scotland, would be made use of to distribute cards giving simple instructions to mothers to enable them to recognise the first symptoms of the disease, and to understand its gravity,

## TRADE AND COMMERCE OF HAMBURGH.

The gradual improvement (writes Consul-General Annesley) which has been visible in the chief civilised States during the past few years in industry and trade seems in Germany, as well as in other countries, for the present, to have reached a resting point. As far as the published statistics yet show, a decrease has occurred in several groups of exports from Germany, and, as regards individual articles, complaints are here and there forthcoming of scarcity of occupation, as well as of smallness of profits. The past year proved somewhat detrimental to banking interests, as the general political insecurity cramped the inclination for any undertaking; commercial enterprises also made fewer claims upon the money market. Shipbrokers, again, have some reason for complaint, owing to the declining freights to all parts, the natural consequence of the increase in steam tonnage during recent years, which decreased their profit as well as that of the steam companies. If, in spite of this, most of the Hamburg steam lines have augmented their fleets, as is shown later on in my report, it is a proof of the shareholders' determination not to give up their very difficult competition with the powerful English companies. A combination is now taking place among the Hamburg shipbrokers for the promotion of their own interests, and efforts are being made to extend the action to other German ports. Marine insurance companies suffered some heavy losses, and the rise in premiums has not yet compensated them, but no failures took place, whilst the bankruptcy of the Insurance Company of 1874, which took place in 1881, and shook the credit of this branch of business in Hamburg at that time, has terminated by the creditors being paid in full. This result, and the fact that it is stated to be the only instance of the failure of a Hamburg marine insurance company, speaks well for the stability of these institutions.

## FRENCH METAL INDUSTRIES.

THE safes of G. & H. Bauche, Reims, are being sold in large numbers. These safes are guaranteed by the makers to be entirely incombustible, the framework and internal compartments being of tempered steel. M. A. David, of Charleville, has some handy portable forges, which are coming into extensive use by blacksmiths and others. They are light and simple in construction, and appear to be well made.

The Société Métallurgique de l'Ariège, which has an important establishment in the Boulevard Périeré, Paris, reports a steady and satisfactory business, and the iron and steel works in that department are generally in a more favorable condition than a year ago.

The Creusot Works have latterly received some extensive orders in the heavy branches, and its works at Châlon are also well supplied with contracts. Altogether, the company employs some 8,200 workmen, of whom, at its central establishment, 650 are engaged at the blast-furnaces, 2,350 at the forge, 1,070 at the steel-works, and 2,050 in the engineering-shops.

ANGLO-FRENCH METAL WORKS.—Referring to the metallurgical industries in the Nantes district, Consul Segrave gives some details concerning Couëron, which will be interesting. The iron works Passe Indre turned out during 1883 some 8500 tons of bar and sheet iron, being a considerable increase on the output of the previous year, and in the main due to the fresh impulse given to shipbuilding in the district. They give employment to 450 hands. There has been a fair increase in the demand for agricultural machinery of local manufacture. The excellence of the workmanship causes them to be much appreciated over a large radius. English competition is, however, a serious difficulty in the way of expansion. Local hardware has been in much request, as well for the French colonies as for the neighbouring districts. There have been, moreover, large Government orders. The Anglo-French Company's leadworks at Couëron have turned out during the year—lead 10 000 tons, silver 18, white lead 471, red lead 217, shot 294, piping 1879, sheet 760, copper sheet 970, copper wire 21, copper bars 47, brass sheet 1017, brass wire 291, brass bars, 81, zinc 375 tons. They employ some 500 hands.

## FRENCH MARKET REPORT.

The French iron market is still contending with the depression which has so long afflicted it, and very little business is reported as doing, while prices remain at the same low level. Quotations at Paris are, per 100 kilos, including town bills:—ordinary cast pipes, fcs. 23; compound coke plates, 18; merchant iron, 1st class, 23; corners and T pieces, 17; leaves and ribands, 22. Copper, Chili, bars, 142.50; ordinary, 137.50. Lead, sundry marks, 24.50. Tin, Banca, 225. Zinc, raw Silesian, 88.75.

## GERMAN MARKET REPORT.

The German iron market is very undecided in tone, with a tendency to less firmness. In raw iron, business is confined to completing old orders for inland works, while the orders for export have still further lessened. In rolled iron, business is firm but cautious. The metal market remains on the whole without any noteworthy fluctuations in prices, no great difference being observable in quotations for large running orders and small parcels. Lead shows weakness; prices are as follows:—Raw iron, middling quality, 5.40 to 5.50 marks; choice kinds, 5.60; cast iron, 6.60 to 6.75; rolled bar iron, 11; flat iron, 11.50 to 12; band, 13; fine grain, 14; sheet, 16.50, per 100 kilos. Raw zinc, 28.10; sheet, 37.75. Raw lead, 22 to 22.50; sheet, 30 to 31; lead, minimum, 31 to 32.

## TRADE REPORT.

The state of the hardware trade in London is, on the whole, one of slackness, as becometh this season of the year. The only signs of activity apparent worthy of note are in the specialities of the summer weather time, as lawn mowers, wire fencing, and garden implements; and in holiday requisites, as bicycles and tricycles, in which some novelties are announced. The season for the latter is said, up to the present, to have been highly satisfactory. In electric bells and telegraph equipments, as insulators, wire, &c., some stir is recognisable, and a movement is also apparent in household and sanitary appliances, the outcome, more or less directly, of the Health Show, and in the sewing machine branch. In the lamp and gas appliances branch, the travellers are now on the road for the winter season, and we hear some good strokes of business have been done. The stagnation which prevails in the shipping interest and the strikes in the North have adversely affected general business; but the forecast of a bountiful harvest lends hope of a good trade in the autumn and winter. In the export department, the best markets, relatively speaking, are Germany and Holland, but in both cases there is



reason to think that a large proportion of the goods ordered are intended for other markets. With Russia we are doing a fairly steady trade, and there has been some improvement lately in the orders from the River Plate, but French trade has received a fresh check through the cholera scare, and none of our leading markets exhibit any activity at present.

### LONDON MARKET REPORT.

The London iron and metal markets during the past month have shewn an utter prostration of business, and little hope of a revival is seen. Wrought and raw iron, English and foreign, are alike in a depressed state, the strikes and stagnations in the shipping trade, and the universal commercial depression, combined with the waiting season of the year, tending to the present climax. In copper, tin, tin plates, and steel but little business is doing; but in lead some movement is noticeable, and an advance recorded. Quotations are:—pig, f.o.b., Clyde, £2 1s. 3½d.; bars, Welsh, in London, £5 7s. 6d.; rails, Welsh, at works, £4 17s. 6d.; sheets, £7 10s.; English spring, £12; cast, £30; lead, common, £10 15s.; sheet and bar, £11 15s.; pipe, £11 15s.; nickel; spelter, Silesian ordinary, £14 5s.; English, £15 10s.; sheet zinc, £17 15s.; tin, English ingot, £85; bars, £86; refined, £87; copper, tough cake and ingot, £58; Chili, £55; phosphor bronze alloy, I. and II., £112; brass wire, 8½d.; tube, 8½d.; sheet, 6½d.; yellow metal, 5½d.; tin plate charcoal, £1 1s.; seconds, 18s. per box.

### PATENTS.

*The following list has been compiled expressly for this Journal by Mr. G. F. Redfern, Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.*

#### APPLICATIONS FOR LETTERS PATENT.

- No. 8766. W. Morgan, of Birmingham, for improvements in velocipedes and in appliances to be used therefor. Dated June 10, 1884.
- „ 8778. J. H. Johnson—a communication from E. Korting, of Hannover, Prussia for improvements in heating apparatus. Dated June 10, 1884.
- „ 8795. G. S. Hull, and C. S. Hull, both of Chambersburgh-Franklin, Pennsylvania, United States, for improvements in brakes for bicycles. Dated June 10, 1884.
- „ 8813. W. R. Lake—a communication from S. E. May, of New York, United States, for improvements in mechanism for supplying air to lamps. Dated June 10, 1884.
- „ 8835. T. Griffiths, of St. David's, Pembrokeshire, for improvements in gas-jet propulsion. Dated March 13, 1884.
- „ 8844. S. H. Rowley, of Swadlincote, Derbyshire, for improvements in water-closet basins. Dated June 11, 1884.
- „ 8849. E. R. Settle, of Southampton Buildings, London, for improvements in tricycles. Dated June 11, 1884.
- „ 8850. R. Varty, of Chancery Lane, London, for improvements in tricycles. Dated June 11, 1884.
- „ 8859. W. L. Wise—a communication from A. Sontzoff, of Sympheropol, Russia, for an improved spool for sewing machines. Dated June 11, 1884.
- „ 8866. J. Cheshire, of West Hockley, Birmingham, for improvements in bicycles, tricycles, and similar machines. Dated June 12, 1884.
- No. 8886. A. Langdon, of Sleaford Vicarage, Lincolnshire, for improvements in weighing machines. Dated June 12, 1884.
- „ 8894. T. W. Dawes, of Brighton, Sussex, for improvements in valve closets. Dated June 12, 1884.
- „ 8904. J. Main, of Geneva-road, Brixton, London, for improvements in water-waste preventing and flushing apparatus. Dated June 12, 1884.
- „ 8913. S. Broadbent, of Stretford, near Manchester, for a new or improved perambulator fastener. Dated June 13, 1884.
- „ 8937. T. Shakespear, of Small Heath, Birmingham, for improvements in certain kinds of tricycles. Dated June 13, 1884.
- „ 8940. S. Keats, of Bagnal, near Stoke-upon-Trent, for an improvement in the manufacture of shuttle sewing machines. Dated June 13, 1884.
- „ 8941. S. Keats, of Bagnal, near Stoke-upon-Trent, for improvements in the construction of shuttle sewing machines. Dated June 13, 1884.
- „ 8950. R. George, of Warrender-road, Tufnell Park, London, for improvements in gas-stoves for heating and cooking. Dated June 13, 1884.
- „ 8954. C. Horner, of Northgate, Halifax, for improvements in thimbles. Dated June 14, 1884.
- „ 8964. J. Pearce, of Railton Road, Herne Hill, London, for a combination portable and folding perambulator and chair. Dated June 14, 1884.
- „ 8970. A. W. L. Reddie, a communication from Schreiber and Co., Vienna, for improvements in the construction of oil lamps, and in means for supplying oil to the wicks or burners thereof. Dated June 14, 1884.
- „ 8980. R. S. Wheels, of Coventry, for improvements in, or relating to tricycles. Dated June 14, 1884.
- „ 9006. J. Adair, of Waterford, for improvements in kitchen ranges and cooking stoves. Dated June 16, 1884.
- „ 9010. J. H. Johnson, a communication from M. Gritzner, of Durlach, Baden, for improvements in sewing machines. Dated June 16, 1884.
- „ 9030. P. A. Bayle, of Paris, for improvements in lamps. Dated June 16, 1884.
- „ 9033. T. Calk, of Malvern Link, Leigh, Worcestershire, for lighting gas automatically. Dated June 16, 1884.
- „ 9045. J. H. Johnson, a communication from J. L. Follet, of New York, United States, for improvements in sewing machines. Dated June 17, 1884.
- „ 9051. A. J. Tonkin, of Bristol, for improvements in bicycles, tricycles, and vehicles. Dated June 17, 1884.
- „ 9056. J. Wheatley, of Abergavenny, Monmouthshire, for improvements in propelling tricycles, and other vehicles. Dated June 17, 1884.
- „ 9071. R. H. Hepburn, of Palace Chambers, Victoria Street, London, for improvements for prevention of smoke in domestic fire-grates. Dated June 17, 1884.
- „ 9072. R. W. Boyd, of New Bond Street, London, for an improved gas or oil stove. Dated June 17, 1884.
- „ 9073. R. W. Boyd, of New Bond Street, London, for an improved stove for introducing fresh warmed air into the room. Dated June 17, 1884.
- „ 9074. J. Thomas, of Cabot Street, Bristol, for improvements in sewing machines, chiefly designed for facilitating the binding of hat-brims, and for similar purposes. Dated June 17, 1884.
- „ 9126. J. Thomas, Junior, of Wrenburg, Cheshire, for improvements in the construction of hinges. Dated June 18, 1884.

- No. 9134. W. Binks, of Gleadless Road, Heeley, Sheffield, for improvements in the construction of handles for table cutlery and similar articles. Dated June 18, 1884.
- „ 9140. J. D. Ready, of Bilston Street, Wolverhampton, and C. Meason, of Havelock Road, Handsworth, both in Staffordshire, for improvements in coronas, chandeliers, gas, and other standards and other lamps. Dated June 18, 1884.
- „ 9147. A. Brochelbank, of Oglander Road, South East Dulwich, London, for improvements in the construction of perambulator accessories, applicable to other vehicles. Dated June 18, 1884.
- „ 9155. D. Jones, of Southampton Buildings, London, for an improved method of driving tricycles and other velocipedes. Dated June 18, 1884.
- „ 9156. W. Fabian and A. Teller, both of Hamburg, Germany, for improvements in knife cleaning apparatus. Dated June 18, 1884.
- „ 9164. G. Birkitt, of Siddals Road, Derby, for improvements in cooking ranges. Dated June 19, 1884.
- „ 9188. Mary E. Rochfort, of Kilburn Priory, Kilburn, London, for improved garden trowels. Dated June 19, 1884.
- „ 9194. A. Parkes, of Zoar Works, Wolverhampton, for an improved cuisine, to be called "The Campactum Cuisine." Dated June 19, 1884.
- „ 9209. J. E. Dixon, of Peas Hill Road, Mottingham, for an improved two-wheeled velocipede. Dated June 20, 1884.
- „ 9223. T. Shakespear, of Herbert Road, Smallheath, Birmingham, for improvements in tricycles. Dated June 20, 1884.
- „ 9229. W. Fletcher, of Biggin Street, Dover, for a new or improved safety loop or catch, for locking or holding the wheels of perambulators, tricycles, and other light vehicles. Dated June 20, 1884.
- „ 9256. J. Appleby, of Dunham, Massy, Cheshire, for improvements in tricycles. Dated June 21, 1884.
- „ 9259. P. Garton, of Liverpool, for improved attachment for spouts of watering cans for producing a spray. Dated June 21, 1884.
- „ 9260. S. Woodall, of Firs Street, Dudley, Worcestershire, for the effective washer. Dated June 21, 1884.
- „ 9279. W. H. Benson, of Baldwin Street, Bristol, for improvements in convertible double tricycles. Dated June 21, 1884.
- „ 9286. A. J. Boulton, a communication from Jules de Bornier, of Aix, France, for velocipedes. Dated June 21, 1884.
- „ 9298. C. Willey, of Western Bank, Sheffield, for improvements in the manufacture of chisels, gouges, and similar implements, with bolsters, and cutlery. Dated June 23, 1884.
- „ 9308. G. W. Chambers, of Burton Weir, Rotherham, Yorkshire, for improvements in stove grates, by the conversion of ordinary grates into slow combustion grates. Dated June 23, 1884.
- „ 9332. J. Napier, of Wellpark Terrace, Kirkintilloch, for improvements in the construction of cooking ranges. Dated June 24, 1884.
- „ 9352. H. J. Haddan, a communication from C. Helsner, of Leipzig, Saxony, for improvements in pocket knives. Dated June 24, 1884.
- „ 9363. W. F. Healy, of Bridgeport, Fairfield, Connecticut, United States, for improvements in bicycles. Dated June 24, 1884.
- „ 9372. W. Rockliffe, of Sunderland Street, Sunderland, for improvements in latches and locks. Dated June 24, 1884.
- No. 9385. B. W. Stevens, of Whittall Street, Birmingham, for improvements in tricycles. Dated June 25, 1884.
- „ 9396. T. Rigg, of South Street, Rochdale, for improvements in velocipedes. Dated June 25, 1884.
- „ 9453. W. E. Gedge, a communication from A. S. Fama, of Nice, France, for improvements in safety lamps and candlesticks. Dated June 26, 1884.
- „ 9465. J. H. King, of Liverpool, for improvements in locks, and keys for the same, applicable for use with latches, safes, and other articles. Dated June 26, 1884.
- „ 9478. F. G. Myers, of Wellingborough, Northamptonshire, for an improved driving mechanism for bicycles. Dated June 27, 1884.
- „ 9481. B. Powell, of Poynton, near Stockport, for a tricycle called the "Ratchet," consisting of one or more wheels. Dated June 27, 1884.
- „ 9491. W. E. Parry, of Redland, Bristol, for an improved arrangement of driving gear for tricycles, bicycles and like velocipedes. Dated June 27, 1884.
- „ 9504. C. H. Robinson, of Glasgow, for improvements in gas stoves. Dated June 27, 1884.
- „ 9521. F. R. Baker, of Buckingham Street, Birmingham, for improvements in lamps for burning volatile and other oils. Dated June 28, 1884.
- „ 9526. A. H. Hearington, of Regent's Park Road, London, for an improved water-heater. Dated June 28, 1884.
- „ 9527. A. H. Hearington, of Regent's Park Road, London, for an improved water heater. Dated June 28, 1884.
- „ 9528. A. H. Hearington, of Regent's Park Road, London, for an improvement in gas burners. Dated June 28, 1884.
- „ 9539. A. J. Boulton, a communication from C. Kosch, of Haida, Bohemia, for improvements in winding apparatus for sewing machines. Dated June 28, 1884.
- „ 9616. T. J. Hood, of Eccles, near Manchester, for improvement in the gearing for the propulsion of tricycles, bicycles and other vehicles. Dated July 1, 1884.
- „ 9645. D. Lindo, of South Street, Finsbury, London, for a combined apparatus for making coffee, and for boiling milk or other liquid at the same time. Dated July 1, 1884.
- „ 9683. J. Kaye, of Kirkstall, Yorkshire, for improvements in watering cans. Dated July 2, 1884.
- „ 9691. G. Zanni, of Gibson Square, London, for improvements in hydraulic apparatus for propelling tricycles or boats, or for similar purposes. Dated July 2, 1884.
- „ 9702. J. Shaw, of Lockwood, near Huddersfield, for improvements in and relating to steam washers for washing clothes. Dated July 3, 1884.
- „ 9547. J. E. Holloway, of Westminster Pridge-road, London for a new or improved mode of and means for driving bicycles, tricycles, and other velocipedes. Dated June 28, 1884.
- „ 9559. T. McCracken, of Ardmore, Londonderry, for improvements in the construction of burners for the combustion of gas or vapour and air for heating purposes. Dated June 30, 1884.
- „ 9569. E. Kohler, of Taylor Street, San Francisco, California, United States, for improvements in sewing machines. Dated June 30, 1884.
- „ 9571. W. P. Pinder, of Westgate, Otley, Yorkshire, for improvements in apparatus for driving tricycles and cycles. Dated June 30, 1884.
- „ 9586. R. Norton, of Hardwicke Terrace, Gateshead, and S. Wilkinson Snowden, of Canton Street, Stainsby



- No. 9708. G. P. Lee, of Longsight, Manchester, for improvements in the construction of the bodies of perambulators and similar vehicles. Dated July 3, 1884.
- „ 9710. C. Edley, of Sheffield, for improvements in guard razors. Dated July 3, 1884.
- „ 9726. J. A. Hanna, and T. F. Shillington, both of Belfast, for improvements in boilers designed for hot water heating apparatus. Dated July 3, 1884.
- „ 9738. J. and T. Webb, both of Coventry, for improvements in tricycles. Dated July 3, 1884.
- „ 9773. G. Taylor, of Birmingham, for improvements in speed gear or driving mechanism of velocipedes. Dated July 5, 1884.
- „ 9798. E. R. Wethered, of Hertford Road, Woolwich, London, for improvements in locks and latches. Dated July 5, 1884.
- „ 9807. W. Beecroft and D. Noble, both of Leeds, for improvements in sewing machines. Dated July 5, 1884.
- „ 9821. J. A. Edwins and A. T. Andrews, both of Birmingham, for improvements in velocipede foot pedals. Dated July 7, 1884.
- „ 9830. J. Willis, of Attercliffe, Sheffield, for improvements in combined wringing, knife-cleaning, and boot-polishing machines. Dated July 7, 1884.
- „ 9831. F. Bosshardt, a communication from W. Clauss, of Berlin, for improvements in lamps. Dated July 7, 1884.
- „ 9832. J. H. Reynolds, of Birmingham, for an improved velocipede. Dated July 7, 1884.
- „ 9850. J. B. Colbran, of High Holborn, London, for improvements in cooking ranges. Dated July 7, 1884.
- „ 9857. F. Cuntz, of Karlsbad, Bohemia, Austria, for intermittent flushing apparatus. Dated July 7, 1884.
- „ 9875. J. H. Bastow, of Keighley, for washing clothes. Dated July 8, 1884.
- „ 9916. J. H. Johnson, a communication from Messieurs Varielé and Company, and M. M. F. Moulin, all of Paris, for improvements in locks. Dated July 8, 1884.
- „ 9933. J. G. Inshaw, of Aston, near Birmingham, for anti-friction bearings for bicycles, tricycles, and other vehicles and machinery. Dated July 9, 1884.
- „ 9943. W. A. Whiteley, of Hillsbro', Sheffield, for improvements in the manufacture of scissors and similar hand shears. Dated July 9, 1884.
- „ 9956. R. Beesley, and Hewitt, Loasby and Company, Limited, of Coventry, for improvements in tricycles and like velocipedes. Dated July 9, 1884.
- „ 9971. A. M. Clark, a communication from W. Clemson, of Middletown, New York, United States, for improvements in bicycles. Dated July 9, 1884.
- „ 9976. J. H. Johnson, a communication from Messieurs Varielé and Company, and M. M. F. Moulin, all of Paris, for improvements in secret or combination locks or fastenings. Dated July 9, 1884.
- „ 9979. J. Ireland, of Dundee, for improvements in apparatus for wringing or mangling clothes or other fabrics. Dated July 9, 1884.
- „ 9985. W. P. Thompson, a communication from the Morley Sewing Machine Company, of Boston, Massachusetts, United States, C. A. Sinclair, Treasurer, for improvements in sewing machines, and in button feeding devices adapted to be used therewith. Dated July 10, 1884.
- „ 9987. C. V. Boys, of Dorset Square, London, for improvements in cycloimeters, partly applicable to other purposes. Dated July 10, 1884.

- No. 9995. W. Wright, of Droylsden, Lancashire, for improvements in the construction of velocipedes. Dated July 10, 1884.
- „ 10,012. A. J. Boulton, a communication from K. Wegener and H. Passbury, both of Moscow, for apparatus for heating or super-heating water. Dated July 10, 1884.
- „ 10,027. W. H. Benson, of Bristol, for improvements in securing the tyres of wheels for bicycles, tricycles, perambulators, invalid chairs or carriages, and other like vehicles. Dated July 10, 1884.

#### Letters Patent have been issued for the following:

- No. 5736. M. Heslop, of Coleman-street, and J. Martin, of Palmerston Buildings, both in London, for an improved automatic smoothening or ironing machine for laundries and other purposes. Dated December 13, 1883.
- „ 5764. A. J. Boulton—a communication from E. Krieger, of Essen on-the-Rhine, Germany, for an improved tool or apparatus for opening packing cases, boxes or chests and for similar purposes. Dated December 17, 1883.
- „ 5880. A. Greenwood, and S. Keats, both of Leeds, for improvements in sewing machines. Dated December 27, 1883.
- „ 5887. H. J. Haddan—a communication from A. E. Lytle, of Chicago, Illinois, United States, for improvements in expansion wrenches, mandrels, reamers, and arbors. Dated December 28, 1883.
- „ 5892. A. Greenwood, of Leeds, for improvements in sewing machines. Dated December 28, 1883.
- „ 5918. J. A. Lamplugh, of Birmingham, for improvements in saddles for bicycles tricycles, and other velocipedes and vehicles. Dated December 29, 1883.
- „ 5910. J. C. Mewburn—a communication from J. E. Boyle, of Brooklyn, and H. Huber, of New York, both in United States, for improvements in water-closets and water supply apparatus therefor, and in pipe connections for their earthenware pans or bowls, also applicable to the pans or bowls of lavatories and the like, Dated December 31, 1883.
- „ 77. W. A. Pick, of Caledonia-street, King's Cross, London for convertible rat-trap or rubber pedals for velocipedes. Dated January 1, 1884.
- „ 370. G. Foster, of Halifax, for an improved apparatus for turning gas off and on whilst lying in bed. Dated January 2, 1884.
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- „ 2270. A. Martin, of Birmingham, for improvements in lamps for burning mineral and other oils. Dated January 28, 1884.
- „ 2432. F. H. White, of Liverpool, for fitting swing trivets to grates, ranges, and stoves. Dated January 31, 1884.
- „ 2861. T. B. Loney, of Gosport, Hants, for improvements in tricycles. Dated February 7, 1884.
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„ 4305.	A. Emanuel, of Marylebone Lane, London, for improvements in a water-closet. Dated March 4, 1884.	
„ 4427.	G. Sawyer, a communication from the White Sewing Machine Company, of Cleveland, Ohio, United States, for an improved "take-up" mechanism for sewing machines. Dated March 5, 1884.	
„ 4440.	F. Baker, Southampton, for self-locking straight steering gear of tricycles and velocipedes. Dated March 6, 1884.	
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„ 4760.	J. Jackson, of Coventry, for improvements in tricycles and other velocipedes. Dated January 30, 1884.	
„ 5022.	A. Reutershan, of Solingen, Germany, for improvements in scissors. Dated March 17, 1884.	
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„ 5209.	C. C. Wilson, of Leeds, for gas fire. Dated March 20, 1884.	
„ 5330.	C. D. Abel, a communication from B. Rudolph, of Berlin, for improvements in overhead sewing machines for sewing knitted goods. Dated March 22, 1884.	
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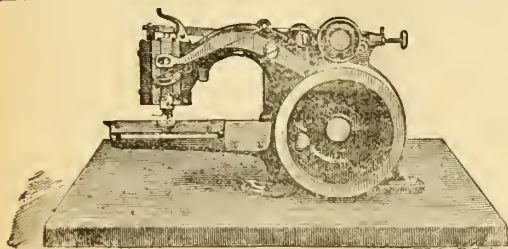


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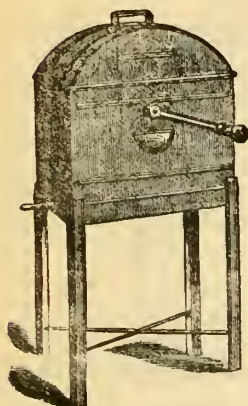
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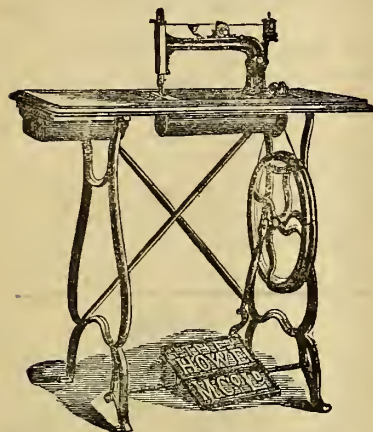
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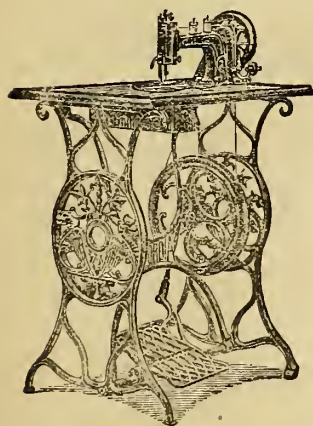
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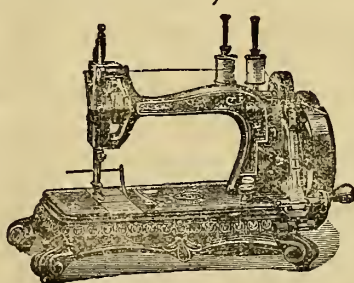
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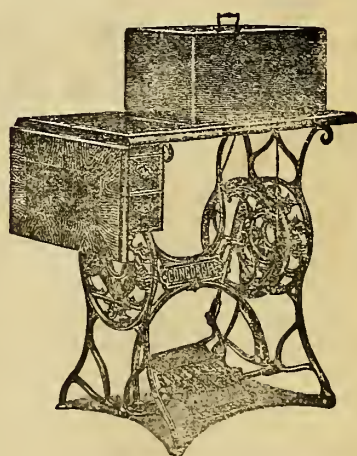
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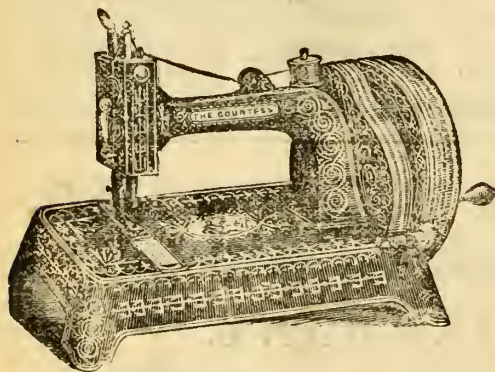
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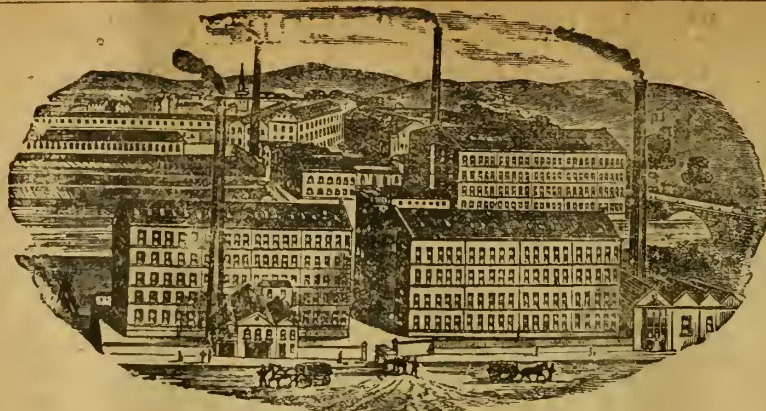
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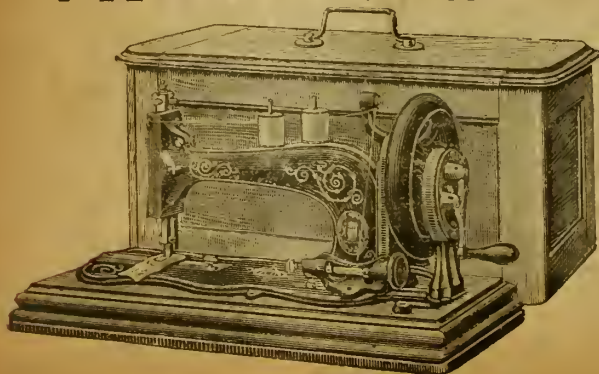
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No. \_\_\_\_\_ belonging to \_\_\_\_\_

upon the terms and conditions following :—

I. On the sum of £ : s. d. being paid to \_\_\_\_\_ in  
instalments of £ : s. d., the first instalment to be paid on  
\_\_\_\_\_ and each subsequent instalment at the expiration  
of each succeeding \_\_\_\_\_ the  
to belong without further payment to the undersigned.

II. In case of default in the punctual payment of any instalment, the instalments previously  
paid shall be forfeited to \_\_\_\_\_ who shall thereupon be entitled  
to resume possession of the \_\_\_\_\_, the understanding being that  
until full payment of £ : s. d. the \_\_\_\_\_ remains  
the sole and absolute property of \_\_\_\_\_ it is not to  
be removed from the undermentioned address, can be inspected at any reasonable time  
by any duly authorised agent or servant of \_\_\_\_\_  
and is only lent on hire to the undersigned, who will take all reasonable care of it  
during the hiring, and in case of damage by fire or accident, bear the loss or risk.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 18

Signed \_\_\_\_\_

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Address \_\_\_\_\_

Witness to the above Signature \_\_\_\_\_

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The above Agreement is constructed on one originally drawn up by Lord Coleridge, the Lord Chief Justice of the Common Pleas, which was submitted to Sir Hardinge F. Giffard, Her Majesty's Solicitor-General, who is of opinion "that it confers no right in equity any more than at law to the goods in question, and consequently does not require to be registered under the New Bill of Sale Act."

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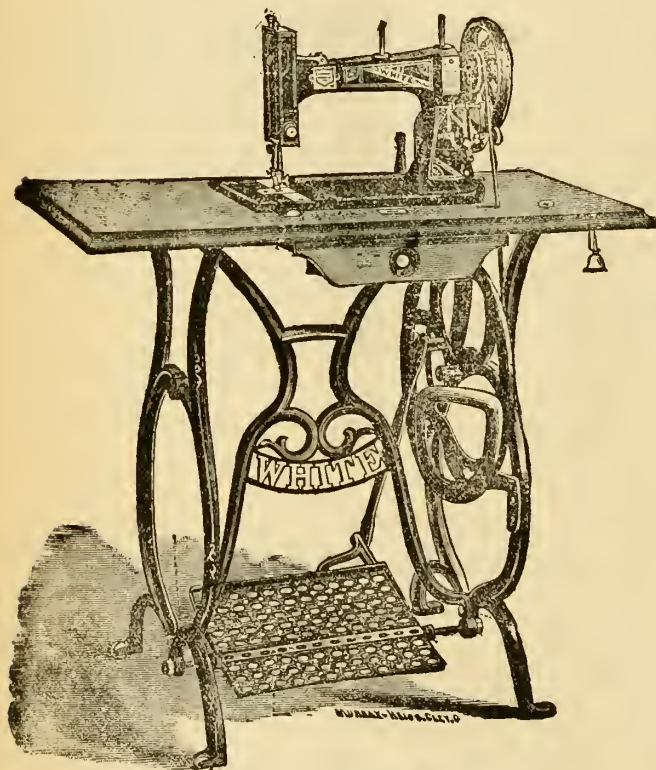
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## PROTECTION OF POLISHED WORK FROM RUST.

BY W. B. H.

THE summer months are more productive of rust upon polished work than the cold or winter months. This may be accounted for by supposing the metallic parts to be colder than the aerial temperature of the room in which the articles may be at that time exposed, and that moisture forms upon them in the same manner that globules of water are seen upon the outer surface of a pitcher of cold water on a warm day. Moisture may be communicated from the perspiration of the fingers in handling. If there be no protection to the polished surface, rust is soon apparent.

There are many methods employed to prevent rust. The best, perhaps, is by silver or nickel plating. The latter is considered the most satisfactory; but, where this cannot be employed—as in the case of needles and similar work—other means must be resorted to. One method can be used by the polisher who finishes the work. If a small amount of tallow or beeswax be rubbed upon the polishing wheel, it imparts a sort of protection to the work by covering the polished surface with a glazed surface that will resist rust to some degree. If work, when ground or polished, be put into powdered, air-slaked lime, it will not rust as long as in contact with the lime or has a slight coating of it. If powdered lime be sprinkled among such small work as needles and other small articles, care being taken to keep the lime in contact with every part, no fear of rust need be entertained by ordinary handling, exhibiting for sale, &c. Powdered chalk and soap-stone have been recommended for the same purpose, but they have not as good protection as the lime. Washing with lime water has been recommended, but it is not applicable to the majority of small articles that pertain to sewing machines.

Careful scrutiny and rubbing with oiled chamois skin is practised by some, but this is considered too tedious, as in case of a tray of needles or work of such form as is difficult to reach every portion of, such as hemmers, corders, binders, &c.

The alkalis of potash and soda in a caustic state will prevent polished iron or steel from rust, and the carbonates of the same make like protection. If a solution be made of the above, and bright work immersed, damp atmospheric air will have but little influence to rust or oxidize the surface. It has been asserted that if these carbonates be added to sea water, it will have but little effect to rust the surface it comes in contact with.

Another method to protect from rust is to give the polished articles a coating of tallow, by rubbing with a flannel cloth saturated with that material. Vaseline has the same property to protect, and so has a common mixture of clean lard and quicksilver. This last preventative of rust is much used, and recommended by some who use it. There are so-called rust preventers in the market, which are used by sportsmen to prevent rust upon the polished work of their firearms, especially when near the salt water.

"Cog-wheel," on page 26 of "Hints to Repairers," gives this preventative: "Dust the needle tray with powdered chalk that has been exposed to the sun for a few hours, or use good sweet oil rubbed over the needles while they are in the tray." He gives another in the next paragraph: "Warm the iron or steel till you cannot bear the heat on your hands; then rub with new and clean white wax." With all due deference to "Cog-wheel," it may be remarked that it behoves the operator to ascertain if the sweet oil has not been prepared with salt or acid, as is often the case, to keep it from turning rancid. The suggestion may be made that good sperm oil, or even good lard oil, may be a safer substitute. And in place of the powdered chalk use air-slaked lime.

There is also a preventative given on page 77 of "Hints to Repairers," which says: "Dissolve half an ounce of camphor in a

pound of lard, or in that proportion, according to the quantity used, and before it cooks enough to be hard, mix in enough black lead to give the whole the colour of iron." Olmstead's varnish is also given, which is made by melting 2oz. of resin in a pound of fresh, sweet lard. It would seem that the lard would be sufficient protection without the other ingredients. When the Volunteer troops in 1862 were stationed on Ship Island, in the Gulf of Mexico, the soldiers complained of rust upon the rifles and no supply of oil. They were directed to use the inner portions of salt pork, as the outer parts might contain saline matter, and to anoint bright work with this material, which made a very good preventative.

In conclusion, it may be said that to prevent rust, especially during warm weather, avoid handling the work as much as possible, especially if the hands be moist with perspiration. Be careful to avoid breathing on the work when handling or exhibiting it. Wipe carefully with oiled rag or chamois skin if there be apprehension of moisture. Let these precautions be carefully carried out, if any preventative—such as powdered lime—cannot be mixed with the work, remembering that "eternal vigilance" is the best preventative of rust.—*Sewing Machine News*.

## HOW FILES ARE MADE.

As many people are satisfied to see an article and use it without stopping to enquire as to its origin, I purpose to give them the origin, and so far as possible the mode of manufacture, of some of the articles used in the manufacture of sewing machines.

How many of your readers know that the file is first mentioned in the Bible? (see 1. Samuel XIII. 21), nearly eleven hundred years before Christ. The file is also spoken of by Homer in his *Odyssey*, 800 years before Christ. It will therefore be seen that the little article we handle so often is not of modern origin, like the little machine and planing machine of to-day, which do the work of files on a large scale.

The blanks from which files are made are first formed by blacksmiths, who must do their work quickly, for the steel must not be very hot to form the blanks. They are then made very soft and ground to shape. In this shape they are given to the cutter who sits astride a wooden bench and has before him an anvil or block of stone, iron or wood, upon which is laid a strip of pewter; on this strip of pewter is placed the blank with the tang or tail toward the cutter.

Over the blank and passing under the feet of the operator is a stout leather strap for the purpose of holding the blank in position. In the hand of the cutter is a short, stout chisel which he places in position on the point of the blank, the top leaning from him at an angle of 12 or 14 degrees. With a heavy hammer the first blow is struck and the first burr formed on the blank. The chisel is now drawn forward and again pushed back until it rests against the burr just formed, which serves as a guide for the next cut, and so on until the whole length of the file is cut.

The object of holding the chisel at an angle from you is to form the burr in the shape of a saw tooth and not like a  $\Delta$ , which would be the shape if held perpendicular.

The distance between the teeth is owing to the force of the blow. Thus a hard blow makes a coarse file and a light blow makes a fine one.

Double-cut files are made by making a second cut similar to the first, only the blow is lighter and the position of the chisel is changed to cut across the first row.

There are also machine-cut files, but they are not as good as those cut by hand, and it is safe to say that three-fourths of all the files used are cut by hand.

To harden they are coated with a mixture of flour, salt brine, and charcoal dust to prevent the teeth from burning.

They are then placed in a bath of melted lead, one at a time,



until they become red hot. They are then withdrawn and a blow is struck with a lead hammer, the file being laid on a pewter block to straighten it if bent.

The object of striking it is to free it from the burnt scales. It is now plunged into cold salt brine to temper.

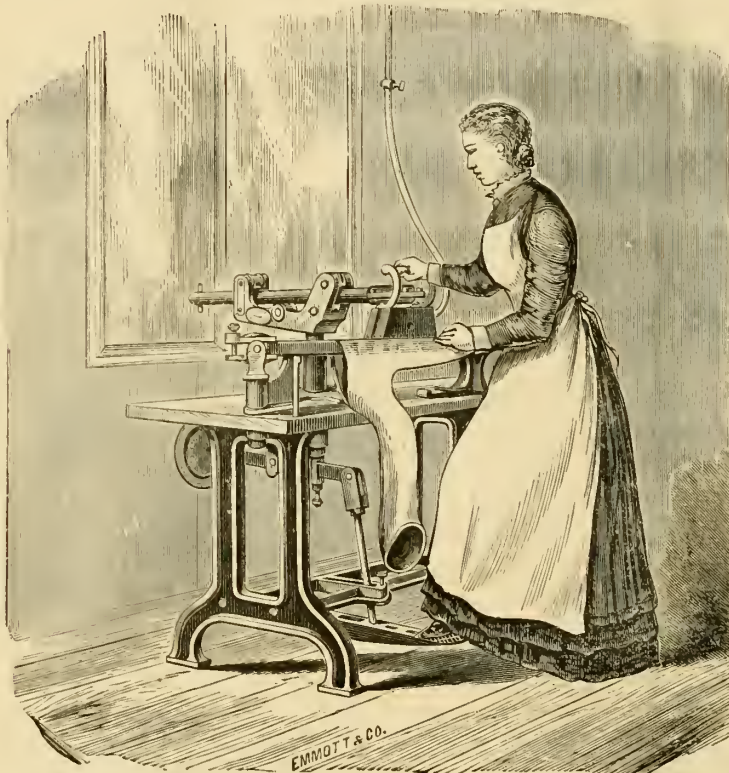
The tangs now have to be drawn and the files scoured by brushing with fine sand, after which they are washed in lime water and then thoroughly washed and dried, rubbed with turpentine and oil, and are considered finished.—“Mechanic” in *Sewing Machine News*.

## THE INTERNATIONAL HEALTH EXHIBITION.

ADDITIONS are continually being made to this exhibition, and amongst those deserving of notice are—

### CLOTH CUTTING MACHINES,

Which are to be seen at Stand No. 35, in the Western Gallery. They are designed by Messrs Aublet, Harry and Co., for wholesale clothiers, shirt, corset and underclothing manufacturers, mantle cut-



EMMOTT & CO.

ters, and boot and shoe manufacturers. The machines are driven by a small gas-engine and effect an immense saving of time and money, as the work is speedily done and all patterns cut with precision. In cutting shirts, for instance, over 500 dozen can be cut in a week, whilst for heavy work, such as moles, corduroys, and other hard substances, there are saw-knives which are speedy in their operation. As everybody knows, there is great command over work effected by fine saws cutting wood for cabinet makers, and infinite variety of pattern is secured by merely turning the wood on the surface table so as to keep the marked lines up to the saw. These cloth cutting machines operate in the same way, accomplishing their work, as we could see, with speed and accuracy. The saving of time appeared to us to be a matter of wonder, and the machines have been brought up to the highest point of utility and perfection.

### IMPROVED COFFEE ROASTER.

At Stand 1145, Western Gallery, we noticed a very useful and excellent coffee roaster, exhibited by Messrs Beare, Gosnell and Co. It may be recommended as the most perfect and trustworthy gas roaster manufactured, and is capable of roasting a pound of coffee in eight minutes, or a quarter of a pound in four minutes, and that by a most simple process. As most people know, in order to obtain a good and refreshing cup of coffee, it is necessary that the berries should be roasted quickly and used within as short a time as possible afterwards. In this way coffee bought at 1s. 3d. will produce a better article than that sold in shops at 1s. 8d. per pound, whilst, quality aside, it is far cheaper and more satisfactory to roast than to buy ready roasted coffee. Proprietors of hotels, clubs, or cafés understand this. The illustrious Bacon wrote, “they have in Turkey a drink called coffee. This drink comforteth the brain and

helpeth digestion." But it can hardly be supposed that the writer of those words derived his knowledge of the beverage from coffees at all similar to the various admixtures and imitations now so freely sold under the name of coffee. Dr. Hassall discovered in 1851 that out of 54 samples of "coffee" purchased at various establishments only three were genuine; and even in 1882, out of 37 samples analysed, but two were free from burnt horse liver, acorns, cabbage stumps, and other substances, which manufacturers use in order to make money. Hence, the worth of a good coffee roaster is incalculable.

#### DIRECT-ACTING PRESSING MACHINES.

These machines, known as Beecroft's patent, are to be seen at Stand 1170, in the Western gallery, and are certainly unsurpassed for their excellence and simplicity. In pressing any article the iron is brought down upon the sleeve-board by firm and direct-acting

mechanism, whilst there are no gas fumes to annoy the worker. In point of economy much has been attained, as the cost of working the machine is small. It consumes five cubic feet of gas per hour, which is at the rate of sevenpence per week. Another point of importance is that the burner is kept clean and free from soot. This is done by a new method of fastening the burner in the iron used for pressing. As a powerful pressing machine it is also deserving of notice. For instance, in trousers work a girl can press all seams and tops of about 20 men's trousers in an hour, or 1000 pairs per week. The pressing is obtained by working a foot treadle.

The same firm exhibit Roller Pressing Machines for straight and flat work. These are of excellent construction. The roller is heated by gas as in the ordinary gas iron, and a girl but 14 years of age may easily press work at four times the rate of the ordinary foot press.



#### DRYING CLOSETS.

Much expense and attention have been given to drying closets. Those shown by Messrs Thomas Bradford and Co. are of two or three kinds, and are doing, as we saw, a large amount of work daily for the exhibition. We first inspected the "Radial" drying closet, which for domestic purposes should have the preference, as it occupies but a small space. It is built of brick, dado height, the entire structure measuring 9ft. by 6ft. Upon one side is fitted a very powerful, but economical stove, which heats a large number of flat-irons, and gives off into the closet a very high temperature with excellent ventilation, so that the heaviest linen can be dried in about 20 minutes. There is a special ventilating shaft for carrying off the moisture. The linen is held by an upright horse having some 20 or 30 arms, fixed in a spiral direction. The number of arms depends upon the height of the closet. This process of drying must be a great advantage in wet or foggy weather, and when used for workhouses, hospitals, and other large institutions, must save much

time and prevent great inconvenience. The linen dried in these closets is as pure and the colour as good as when dried in the open air.

Another exhibit of this class, and by the same firm, is the Draw-out Drying Closet. It is formed of 10 to 50 horses and is very perfect in all its arrangements.

#### THE CANADIAN WASHING MACHINE.

At Stand 1179, Western Gallery, is Kenworthy's Patent "Canadian" Washer. It is a very simple and cheap machine, but decidedly effective in its process. It works on the principle of a force pump, as it consists of something like an inverted funnel fixed to the end of a shaft, having a bar handle at the other end. The clothes are put into a tub or butt and then the instrument is pushed down and drawn up. By this simple plan the water is forced through the articles to be washed and the dirt well removed without rubbing or scrubbing.



The same firm also show the "Paragon" Washing Machine on a new atmospheric principle, up and down motion. The proprietors warrant that this machine turns with half the labour of other washing machines, whilst it is most powerful in action,

#### GAS STOVES.

The improvements in the manufacture of gas stoves are bringing them into widespread use, not for the sake of economy alone, but also for that of efficiency and cleanliness. There is no doubt that in this country gas stoves have saved thousands of lives, and prevented affection of the lungs by cold. All medical men say that we should not sit in rooms having a temperature of only 40 deg., a condition of the atmosphere which is now easily prevented by the use of gas stoves.

At Stand 620, Eastern Arcade, are to be seen several cosey gas stoves manufactured by Messrs. John Wright & Co. They are fitted with cast-iron gratings, introduced with platinum, and have asbestos backs. They have a most brilliant appearance the moment after lighting.

In the same Arcade, and at Stand 655, Messrs. Pugh Brothers exhibit their famous gas fire. The stove is in appearance like that of an ordinary one used for coal; indeed, any firegrate can be fitted for the process patented by this firm, and, what is satisfactory, no pipes are to be seen below the grate.

Messrs Siddaway & Sons, at Stand No. 617, Eastern Arcade, show some very pretty glow gas fires. They are made to hang on the bar of an ordinary grate. The firm also show a variety of household appliances of improved construction. Amongst these is the "Paragon" gas cooking stove, which embodies all the latest improvements. The roasters are double cased and lined with a most efficient non-conducting material, which prevents loss of heat by radiation, and thus saves 40 per cent. in the cost of gas.

At Stand 651, Eastern Arcade, Messrs. William Sugg & Co. have many exhibits of gas stoves. They are beautiful in their construction and well adapted for nurseries, bed-rooms, libraries, drawing-rooms, dining-rooms, &c. The Charing Cross gas fire is on the glow asbestos principle which can be fitted to any grate in which coal fire is now used. It consists of a carefully made arrangement of Bunsen burners which are fitted to a movable joint, so that the burners may be all lighted before they are put into the fire. The gas flame passes up amongst the asbestos in the front of the grate, at the back of which is a non-conducting material. The appearance is cheerful and more heat is given out than is generally radiated from a coal fire at its best. Each burner is supplied with a separate tap, so that any one or more burners can be turned out if it be wished to lessen the heat of the fire; there is also a system of governors to hinder waste of gas.

Under the heading of "smokeless London," Mr. Henry H. Hazard, at Stand 657, Eastern Arcade, shows his new patent Gas Kitchen, which he states, by the use of only a half-pennyworth of gas, heats 600 gallons of water 40 degrees. The Kitchen roasts, bakes, fries, broils and boils, and is also a perfect coffee roaster; indeed, it is designed to do the whole of the work required in a kitchen.

## MINERAL OILS ON THE CASPIAN AND IN INDIA.

THE working of mineral oil and naphtha on the west shore of the Caspian, where it has been used as a fuel and a means of obtaining artificial light for thousands of years, occupies just now considerable public attention; and no doubt the time is coming when Western Asia and Eastern Europe will get all the oil they need from Baku instead of from Pennsylvania. But it

is a mistake to suppose this oil is coming into commerce for the first time. It has been exported from the Caucasus for centuries by caravan, and really the change from goat skins to tanks on board steamers and on railway trucks is a matter of detail rather than of principle. But what should interest Englishmen quite as much as the development of the anciently known and, for long, superstitiously regarded deposits on the shores of the Caspian Sea, is the discovery of the same sort of oil, of better illuminating quality, in the course of improving the roads and making the railroad leading from Sind through Biluchistan in the direction at least of Candahar. This discovery bids fair to pay in a very short time all the cost of making the railway which the present Government abandoned as soon as it came into office, and has now resumed in such hot haste. And the Government of India seems to be wisely determined that it, and no mere private speculators, shall reap the benefit of "the find." It has sent to America for plant, which will be on the spot before the end of the year; and though probably it will not go so far as to work the deposits as a Government monopoly, it will open them up and then let them out to companies with adequate capital. There is an immense opening in India for an earth oil, not merely as an illuminant, but as a lubricant, and we venture to predict that in a country in which timber has become so scarce, and in which coal is found so sparsely, earth oil obtained from the Biluchi border will be used as fuel for machinery to an unexampled extent. Thus there will be a great market almost on the spot for the products of the petroleum springs of the Biluch and Pathan borderland.

But we must look a little further. The amount of capital that has recently been invested at and near Baku has led to the working of another and rich deposit in the island of Cheleken, also known for many years. Now the whole country south of the Georgian Caucasus, and stretching away to the Hindu Kush, is very much the same. Limestone, primary rocks, conglomerate, and hideous deserts of sand very sparsely watered, are common to the north-west frontier of India. Similarly there is throughout the whole region a notable saltiness even in the running water, save only where it is derived from springs in the limestone or from melted snows. As it is on the Caspian shores, so it is in the Shorowak desert south of Candahar, and in the Kach-Gundava desert south of the Bolan Pass. The deserts in the east of Persia connecting the two are likewise salt deserts, formerly covered with inland seas, like the Caspian, but now dried up, as the Caspian is said to be dwindling. There is thus good reason to believe that mineral oil exists at greater or less depth throughout the whole region, but of course it will only pay to work it near rail or water carriage. The Indus, however, is as good a silent highway as the Volga; we have, thanks to political necessity, a railway as close to the oil springs that have been found as the Poti-Tiflis-Baku line is to the Caspian springs; labour is even cheaper towards India than it is towards Russia; and on the whole there seems every reason to believe that Russia and America can both be met and beaten in the oil trade in the bazaars of our two hundred millions of fellow-subjects in Hindustan. If oil can be carried at profit from Baku hundreds of miles up the Volga, and even then along the Russian railways, it can surely be with equal facility carried hundreds of miles up the Indus, and from the Indus Valley Railway to the Punjab and Baroda and Central Indian lines. When the Government has shown that the oil exists in paying quantities near to cheap transit, there will be no lack of capital to carry on the works on the most improved principles. And that it does exist in vast quantities no one who has compared the geological maps of the Caspian shores and of western Pennsylvania with those of our Biluch protectorate can well doubt.

MRS. ISAAC M. SINGER, first wife of the founder of the Singer Sewing Machine business, died in Brooklyn, N.Y., Sunday, June 22, aged, 69 years.

## INTERNATIONAL INVENTIONS EXHIBITION, 1885.

AN International Exhibition of Inventions and of Musical Instruments, is to be opened in May, 1885, in the buildings now standing in the gardens of the Royal Horticultural Society at South Kensington. The Exhibition is not to bring together a mere collection of models of inventions, so much as to illustrate the progress which has been made in the practical applications of science during the past twenty years. The exhibits are confined to processes and appliances, products being admitted only where they are themselves novel or where their introduction is required to make the purpose or advantages of that which is new in any process more interesting and intelligible. It is not proposed to allot space for manufactured goods unaccompanied by any illustrations of the process of manufacture. Generally it may be said that as far as is practicable inventions will be shown by models, with, in the case of models of entire machines, actual specimens of the portions improved under the exhibitor's patent; when the invention relates to parts only the whole machine will not be admitted unless, indeed, the improvement effected cannot be sufficiently shown without the exhibition of the entire apparatus. Lectures are to be delivered on the various classes of exhibits by men conversant with the processes employed, which will be republished in a cheap shape. In the preparation of the classification of groups the council have had the advantage of assistance from the secretary of the Society of Arts, Mr. H. Trueman Wood. Division I., comprising apparatus, appliances, processes, and products, invented or brought into use since 1862, seems to comprehend the whole circle of the arts known to civilized man for the production of food, clothing, and ornament, for the acquisition and dissemination of knowledge, for the provision of amusement, and the economical employment of labour, and for the preservation and destruction of life. A more detailed account of the classes of inventions it is intended to accept for exhibition will, however, be found of interest to many of our readers.

In Group I. Agriculture, horticulture, and arboriculture—there will be seven classes in which models, &c., will be accepted for the first five classes subject to the remark made above with regard to previous exhibitions and agricultural shows. Class 1. Field implements.—Ploughs, drain-ploughs, cultivators, steam-diggers, harrows, drills, haymakers, horse-hoes, rakes, reapers, mowers, binders, anchors and rope, porters, wagons, wagon harness. Class 2. Barn and farm-yard implements.—Thrashing machines, screens, winnowers, corn-cleaning machines, hay and straw elevators, hay and straw and fresh fodder compressors, turnip cutters, chaff cutters, grist mills, horse gear, crop dryers. Class 3. Dairy and poultry-farm appliances.—Milking appliances, cream separators, churns, cheese-making apparatus, apparatus for manufacturing butterine, incubators. Class 4. Agricultural construction.—Models, plans and designs for farm buildings, oast houses, siloes, rickstands, &c. Class 5. Cattle food.—Materials, processes, apparatus, seed mills, cake crushers, boilers, steamers, and cooking apparatus, feeding appliances. Class 6. Horticultural apparatus.—Hot-houses, frames, greenhouses, orchard houses, graperies, boiler and heating apparatus, lawn mowers, watering apparatus, tools and implements, pots and plant boxes, garden wire work, chairs, &c., plant labels. Class 7. Arboriculture.—Apparatus, &c., used in forestry, methods and materials for the preservation from decay of trees and timber.

Class 24. Building Construction.—Models and plans showing methods of construction, non-combustible constructions; labour saving and other machines and appliances used in building, scaffolds, elevators; fittings and appliances used in building, shutters, blinds, lifts, bells, speaking tubes, &c. Class 25. Heating, ventilation, house drainage, &c.—Sanitary appliances, ventilators, cowls for chimneys, chimney sweeping apparatus, apparatus for heating by steam, water, air, &c., means of cooling air.

Machines which are prime movers and the means of distributing their power will form Group IV., of four classes. Class 26. Steam engines and boilers.—Stationary, portable, marine, locomotive, fireless locomotives, methods and means of preventing corrosion and incrustation, methods and appliances for preventing explosions and for testing boilers; firegrates, fire feeders, smoke consuming appliances, valves and valve gear, steam joints, governors, injectors, pumps, bearings, lubricators, anti-friction metals, indicators, gauges, manometers, tachometers, dynamometers. Class 27. Gas and air engines, &c. Gas engines, hot-air engines, petroleum engines, air compressors, compressed air engines, ammonia engines, vapour engines, accessories for the above. Class 28. Means of utilizing natural forces.—Turbines, water-wheels, tide mills, means of utilizing wave power, hydraulic rams, water pressure engines, windmills, solar engines. Class 29. Means of transmitting power.—Driving bands, shafts, pulleys, gearing, clutches, distribution of power by water or by air.

Group II. takes in mining and metallurgy.—Class 8. Machinery and appliances used in mines and quarries. Class 9. production and manufacture of iron and steel. Class 10. Forging and foundry work. Class 11. Metallurgy of metals other than iron with the exception of the precious metals; alloys. Class 12. Metallurgy of the precious metals, gold, silver and platinum. Engineering construction and architecture, Group III. will be illustrated in 13 classes. Class 13. Roads, constructing cleansing, road sweeping machines, rollers, apparatus for removal of mud, snow, &c., water-carts and other means of watering. Class 14. Railways and tramways. Class 15. Bridges and viaducts. Class 16. Docks and harbours. Class 17. Lighthouses. Class 18. Rivers and canals. Class 19. Water supply and sewerage. Class 21. Testing apparatus. Class 22. Military engineering and fortification. Class 23. Materials used in building.

Group V. includes the many contrivances designated under the general term railway plant.

Common road carriages come in the next group, the multitudinous cycles, it will be noticed, being admitted in their fullest variety. Class 35. Carriages for common roads.—steam, &c., carriages, pleasure and travelling carriages, cabs, omnibuses, hearse, trucks, carts, bath chairs, perambulators, ambulance carriages, machinery used in carriage, &c., construction, indicators, carriage lamps, carriage furniture and fittings, method and means of propulsion. Class 36. Bicycles and tricycles.—"Cycles" of every description, and fittings for the same. Class 37. Saddlery and harness.—Horse clothing, whips, spurs, means and methods of breaking-in horses, disengaging runaway horses. Class 38. Farriery.—Veterinary apparatus and material, medicines for horses, cattle &c., horse-shoes, machinery for making horse-shoes and horse-nails, methods of roughing horses, horse clippers, grooming apparatus.

Exhibits of naval architecture form Group VII.—Class 39. Ship and boat building. Class 40. Ships' fittings. Class 41. Marine propulsion (including steering). Class 42. Balloons. Class 43. Aeronautic apparatus. Twelve classes fall in Group IX. The manufacture of textile fabrics. Class 44. Treating raw material. Class 45. Preparing for spinning. Class 46. Spinning. Class 47. Preparing for weaving. Class 48. Weaving. Class 49. Rug and mat making. Class 50. Lace making, &c. Class 51. Dressing and finishing. Class 52. Felt making. Class 53. Bleaching and tissue printing. Class 54. Rope making. Class 55. Utilization of second hand materials and waste products.

Machine tools and machinery come next:—Class 56. Metal-working machines. Class 57. Wood-working machinery. Class 58. Stone-working machinery.

Group XI.—Hydraulic machines, presses, machines for raising heavy weights, weighing, &c.:—Class 59. Pumps, hand, steam, rotary, centrifugal. Class 60. Fire-engines. Class 61. Cranes and other lifting apparatus. Class 62. Hydraulic and other presses. Class 63. Weighing machines (for commercial purposes).



The elements of machines form a group of two classes—mechanical movements and separate parts of machines.

The succeeding group of 12 classes covers a large number of the uses to which electricity may be put. Group XIV.—Apparatus, processes, and appliances connected with applied chemistry and physics.

Gas and other illuminants form Group XV:—Class 81. Coal gas. Class 82. Water gas, oil gas, carburetted air, &c. Class 83. Tests and photometrical apparatus.—Chemical tests, standards of light, measurement of light. Class 84. Burners, and means of utilizing and applying gas.—Gas fittings, burners for illuminating gas, devices for imparting luminosity to flame, gas meters, methods of lighting gas, methods of increasing illuminating power of gas. Class 85. Mineral and other oils.—Class 86. Candles, &c.—Class 87. Lamps for oil and spirits, holders for candles, &c.

Fuel, furnaces, &c., follow:—Class 88. Manufacture of fuel. Class 89. Furnaces for manufacturing purposes.—Class 90. Stoves for coal, for gas, for oil, &c.—Cooking stoves and kitchen ranges, domestic fireplaces, gas cookers, gas burners for heating and cooking, petroleum and other stoves for heating and cooking.

Group XVII.—Food, cookery, and stimulants,—has, with the exception of the two classes, 91 and 96, being fully illustrated in recent exhibitions:—Class 91. Machinery for treating grain and flour.—Machines for preparing and grinding corn and dressing flour and other mill machinery, mill-stone dressers, roll turners, and similar machines, machines for milling and polishing rice, grain elevators, apparatus for drying grain, granary fittings. Class 92. Manufacturing articles of food.—Apparatus for manufacturing and refining sugar, confectioners' machinery, machines and appliances for preparing mustard, spice, pepper, &c., manufacture of salt. Class 93. Preserving food.—Methods, materials, and processes for preserving animal and vegetable food, machines for producing cold. Class 94. Bread and biscuit making.—Kneading machines, biscuit and bread making machines, ovens, processes for making bread. Class 95. Cooking apparatus.—Culinary utensils, chopping and mincing machines, apparatus for paring and slicing fruit and vegetables, cleaning fruit, washing and cleaning vegetables. Class 96. Brewing, distilling, and winemaking.—Machines and appliances connected with the manufacture and use of alcoholic drinks. Class 97. Manufacture of aerated waters.—Machinery, materials, &c., used for the purpose, stoppers, and other appliances. Class 98. Infusions.—Apparatus, &c., used in the preparation and use of tea, coffee, chocolate, &c. Class 99. Tobacco.—Machinery, appliances, and processes for treating and using tobacco.

Class 100. Fabrics.—Specimens of new materials, or materials recently applied to the manufacture of clothing. Class 101. Articles of clothing. Specimens of clothing of novel construction. Class 102. Machinery and apparatus.—Machinery, &c., used in the production of articles of dress, sewing machines, knitting machines, machinery for the manufacture of boots, hats, gloves, &c., needles, and machinery employed in making them. Class 103. Cleaning clothing.—Washing and wringing machines, mangling, &c., machines, boot cleaning machines, machines and processes for cleaning other articles of clothing. Class 104. Dress fastenings, &c.—Buttons, pins, hooks and eyes, machinery employed in their manufacture.

Jewellery and personal ornaments, with materials and apparatus for manufacture, come in Group 19.

The working and uses of leather come in Group XX:—Class 106. Manufacture of leather.—Materials, processes, and appliances for cleaning, curing, preserving, unhairing, drying, tanning, dyeing, splitting, dressing, and otherwise preparing skins and hides.

Group XXI.—India-rubber and gutta-percha, &c. Class 109. Machinery for treating India-rubber and gutta-percha. Class 110. Applications of India-rubber and gutta-percha. Class 111. Substitutes for India-rubber and gutta-percha, materials used in their treatment, &c. Furniture and accessories with fancy goods form Group XXII. of

seven classes:—Class 112. Furniture and upholstery.—Articles, of furniture, machinery, and processes used in their production, frames for pictures and mirrors, safes. Class 113. Floor-coverings and wall coverings (other than paper hangings). Class 114. Artistic and ornamental metal work.—Goldsmiths' and silversmiths' work, electro-plate, ornamental bronzes, appliances used in the manufacture. Class 116. Basket work. Class 117. Brushes. Class 118. Umbrellas, &c. Group XXIII.—Pottery and glass, with materials, machinery and apparatus of manufacture. Class 119. Kilns and furnaces. Class 120. Bricks, tiles, earthenware, &c. Group XXIV.—Cutlery, ironmongery, &c.:—Class 124. Cutlery and tools.—Engineers', carpenters', joiners', &c., tools. Class 125. Surgical instruments and appliances. Class 126. Files and rasps. File-cutting machines. Class 127. Hardware.—Hollow ware, ornamental castings, locks and bolts. Class 128. Screws, nails, &c.—Spikes, hinges, furniture fittings.

To group XXVI.—fire-arms, military weapons and equipment, explosives, &c. Paper, printing, bookbinding, stationery, &c., form Group XXVI:—Class 137. Machines and processes for the manufacture of paper, pasteboard and papier mâché. Class 141. Bookbinding, manufacture of portfolios, &c., applications of papier mâché.—materials, bookbinding machines, wire-stitching machines, cutting presses, rounding machines, backing machines, arming presses, account books, desks, cases, &c., for stationery, &c., purses. Class 142. Artists' implements and materials.—Pencils, brushes, colours, and varnishes, easels, crayons, palettes, and palette knives, drawing boards, drawing instruments, pencil sharpeners. Class 143. Writing materials and appliances.—Type writers, manifold writers, copying presses and processes, processes for multiplying copies of MS., pens, ink, penholders, inkstands, sealing-wax, stationery.

Group XXVII. Clocks, watches, and other time-keepers:—Class 144. Clocks.—Timepieces and other domestic clocks, regulators, and astronomical clocks, watchman's calendar, turret, electrical and pneumatic clocks, hour glasses, sun-dials, water-clocks. Class 145. Time signals, &c.—Methods of controlling and synchronising clocks, apparatus for the distribution and signalling of time, also for the determination of time by astronomical observations. Class 146. Watches and chronometers.—Examples illustrative of stages of manufacture and of the different types of watches and of chronometers, keyless, chronograph, repeating, calendar, and other forms of watches. Class 147.—Tools, &c.—Lathes and mandrills, wheel-cutting engines, machine tools for producing the several parts of watches on the "interchangeable" system, various hand tools used in the manufacture and repair of clocks and watches, gauges and templates, appliances used in case-making.

Philosophical instruments and apparatus are arranged in 11 classes:—Class 148. Optical.—Lenses, prisms, telescopes, microscopes, and accessories, spectrosopes, polarisopes, stereoscopes, photographic lenses, spectacles, eye-glasses, optical glass. Class 149. Astronomical.—Telescopes, (astronomical), transit instruments, equatorials, mural circles, driving clocks, siderostats, heliostats, altazimuths, methods of fitting observatories, and mounting instruments. Class 150. Physical.—Acoustic apparatus, tuning forks, sirens, phonautographs, phonographs, apparatus connected with molecular physics, air-pumps, manometers, radiometers; apparatus for measuring, &c., heat, thermometers, pyrometers, calorimeters, photometers, kinematic, static, and dynamical apparatus, mechanics. Class 151. Electrical.—Friction and induction machines, batteries, and other sources of electricity. Leyden jars, condensers, electroscopes, electrometers, galvanometers, voltmeters, dynamometers, magnetometers, rheostats, resistances, electrical units, induction coils, thermopiles, vacuum tubes. Class 152. Chemical.—Thermometers, hydrometers, pyrometers, furnaces, blow-pipe apparatus, assaying apparatus, apparatus for organic and inorganic analysis, for gas analysis, and for volumetric analysis, laboratory fittings and apparatus generally, balances, reagents. Class 153. Mathematical.—Calculating machines, indicating and registering apparatus, pedometers,

counting machines, slide rules, planimeters, drawing instruments, ellipsographs, straight edges, gages, surface planes, dividing engines, pantographs, eidographs. Class 154. Meteorological.—Barometers, thermometers, rain gauges, manometers, hygrometers, aneroids, anemometers, ozonometers, storm signalling apparatus. Class 155. Geographical.—Surveying apparatus, theodolites, chains, levels, underground surveying apparatus, apparatus for hydrographic surveying and for marine investigations and observations, hypsometrical instruments, tide gauges, seismographical apparatus, projections, maps, charts, models, and globes. Class 156. Nautical.—Sextants, quadrants, sounding apparatus, logs, compasses. Class 157. Weighing and measuring.—Weights, scales, balances, measures of length, graduated scales, verniers, steel tapes, measures of capacity, instruments for angular measurement, clinometers, goniometers. Class 158. Biological.—Apparatus for anatomical research, physiological apparatus, apparatus for collecting and preserving natural history specimens.

In Group XXIX.—Photography—there will be three classes:—Class 159. Processes and their results.

Educational apparatus includes appliances used in primary, scientific, technical, and artistic instruction.

Group XXXI.—Toys, sports, &c.:—Class 163. Toys, games, and exercises.—Outdoor games, gymnastic apparatus, skates, artificial skating surfaces, indoor games, billiard tables. Class 164. Field sports.—Apparatus used in hunting, fishing, shooting, &c., traps for animals, birds, vermin, &c. Class 165. Scenic and dramatic effects —Theatrical fittings and apparatus, optical (magic) lanterns and apparatus for illuminating them.

#### DIVISION II.—Music.

Group XXXII. Instruments and appliances constructed or in use since 1800.

Group XXXIII. Music engraving and printing:—Class 178. Printed and engraved music, and machines and appliances for its production.

Group XXXIV. Historic collections:—Class 179. Musical instruments and appliances. Class 180. Pictures, engravings, and drawings, of musical subjects.

Applications to exhibit must be made on printed forms, which may be obtained from the Secretary to the International Inventions Exhibition, South Kensington, before the 15th September next.

### SEWING VERSUS MACHINING.

"AN Englishman" writes to the *Daily News*:—"I have observed in an article on dress that appeared in your issue, that the writer dilates on the advantages of the scientific system of dress-cutting. Now, there is a curious coincidence about this same system, which was brought to this country from America. It arrived here just in the very nick of time to prevent our English ladies of the upper and middle classes from forgetting how to thread a needle. Since the introduction of the sewing machine this dire fate has gradually and increasingly been menacing us. The tendency of working by machine is to impel to a sacrifice of neatness to speed. The fingers that could daintily wield a needle and lovingly handle the thread became habituated to the coarser motion of the machine and soon began to lose their deftness. Sewing by hand grows distasteful. The work was put out to be done that could not be reeled off in the machine at so many miles an hour. That was the first step. The second arose from the exceeding cheapness at which ready-made clothing could be sold, thanks again to the sewing machines. Why should my lady slave over a long seam or two when so little was saved by it? Step number two. Now came in the School Boards. In their anxiety to teach the girls what will never be of the slightest use to them, the needle and its craft is thrust to one side as of the slightest possible importance.

A lady on the School Board lifted up her voice and protested against the girls 'wasting their time in plain sewing.' This third step goes far on the way to deprive the humbler classes of their home seamstresses in the next generation, to say nothing of happy tempers and contented dispositions. We all know that an hour's sewing soothes a woman's nerves and exerts the same calming effect that tobacco does with a man. She sews all her little irritations into the seams, imprisons her fancied wrongs in the double gussets or slays them in the gores. Mrs. Somerville, a woman of superior intellect and great culture, wrote in tribute to the soothing power of a long seam. Madame Dudevant (Georges Sand), of very different calibre, contributed a similar testimony. Every sensible woman confirms it; but the multitude not being sensible, was fast forgetting to use the needle, when [the American scientific system was introduced. Then, what a change! It appealed to two of the strongest sentiments in the female breast—vanity and economy. Every woman is at heart a miser; every woman loves dress. The system saves her pocket and sets off her figure to the best advantage. The needle is again in favour. The neglected thimble is hunted up. The sewing machine aids, it is true, by playing its rightly subordinate part. English women are learning anew how to stitch, to hem, to gather, to pleat. Sewing is no longer in danger of becoming a lost art. Let us, fathers and brothers, acknowledge our debt and proclaim our gratitude. It is not only a matter of missing buttons, but of missing tempers, missing smiles. Cheerfulness has returned with occupation for the flying fingers, and is promoted by the consciousness of well-fitting garments, and of good looks enhanced thereby."

### THE AMERICAN PETROLEUM INDUSTRY.

A RETROSPECT of the past condition of the American petroleum industry, compared with its present state, discloses some interesting facts. The first American petroleum was exported in 1852. Charles Lockhart, of Pittsburgh, sent nearly 600,000 gallons to Europe in that year, and sold it for 2,000 dols. less than the cost of transport. In 1883 nearly 400,000,000 gallons were exported, for which 60,000,000 dols. was returned to America. At the present day there are 20,000 producing oilwells in Pennsylvania, yielding 60,000 barrels of oil a day. It requires 5,000 miles of pipe line and 1,600 iron tanks of an average capacity of 25,000 barrels each to transport and store the oil and surplus stocks. There are now nearly 38,000,000 barrels stored in the oil region tanks. Besides the 5,000 miles of pipe line in use in that region, there are in operation 1,200 miles of trunk pipe lines connecting the region with Cleveland, Pittsburgh, Buffalo, and New York, and lines building to Philadelphia and Baltimore. In the line between Olean and New York 16,000 barrels of oil are transported daily. These are all the property of the Standard Oil Company, except one between Bradford and Williamsport, Pennsylvania. The Standard employs 100,000 men. The product of its refineries requires the making of 25,000 oak barrels, of 40 gallons each, and 100,000 tin cans holding 5 gallons each, every day. The money actually invested in petroleum production since 1860 is estimated to be more than 425,000,000 dols., of which 200,000,000 dols. was capital from New York City. Since 1880 more than 12,000,000 dols. has been used in building iron tanks, and nearly as much in pipe lines, all by one corporation. The tanks cost on an average 8,000 dols. each. A 35,000-barrel tank is 90 feet in diameter and 28 feet high. The lowest price ever brought by crude petroleum was 10 cents a barrel in 1861. In 1859, when there was only one well in existence, Colonel Drake's Pioneer at Titusville, the price was 24 dols. a barrel. The value of crude petroleum delivered in London is now 6½d. per gallon (a fraction over £1, or 5 dols., per barrel, containing on an average, 40 gallons).



# The Vertical Feed Sewing Machine.

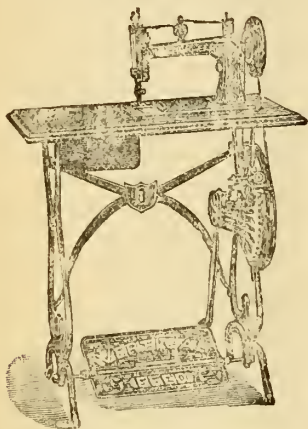
Beyond dispute the only really Perfect Machine yet produced.

AWARDED THE  
ONLY GOLD MEDAL

AT THE

SYDNEY & MELBOURNE  
EXHIBITIONS.

*In Competition with all the leading Machines.*



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its Feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking, and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity, and in the greatest perfection of style. The shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

*Prospectuses, together with Samples of the Work and every information, may be obtained at the  
Offices of the Company,*

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**FOR DISPOSAL.**—A prosperous and lucrative Sewing Machine Business, in a beautiful locality twenty miles from London. May be worked with small capital.—For particulars, apply to H. R. BUTCHER, 30, Queen-street, Maidenhead.

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**Sewing Machine Gazette**

WITH WHICH IS INCORPORATED

**THE HARDWARE TRADES' REVIEW.**

The Editor will be pleased to receive particulars of New Inventions for gratuitous notice. Information and Correspondence are also invited on any topic of interest to our readers.

**TRADE SHOWS.**

IT is an indubitable fact that we live in an age of trade and industrial shows. Hardly have the public become accustomed to, and long before they have mastered, the accumulated stores of invention and wealth—industrial and artistic, raw and manufactured—brought together in the Health Exhibition, than the warning note goes forth of its after-follower. The present exhibition embraces the wholesome field of the health and well-being of man; the forthcoming one takes a flight aside, and will handle one side of his being only—his inventive faculties. These it cannot be assumed have been and are always exerted on the side of health and bodily well-being, and hence there will be present in the new show one department, at least, that does not minister to man's good, albeit a product of his

invention. We allude to the plans and material relating to the grim trade of war.

The new exhibition will be one pre-eminently in which the craftsman, the technician, the specialist, and the inventor can revel. The heaped-up creations of the wit and mind of man will form such a feast as would suffice to make certain mechanically constituted minds dream that they have entered for a time into the seventh heaven of happiness. But of its practical outcome in contributing towards the higher education of the great body of the working folk—and hence of the welfare of the land generally—aftertime alone can tell. Enough meanwhile to know that the scheme has been thought out, and will be borne into deed with that wise and far-reaching business tact that have made the last two exhibitions such eminent successes.

Beyond the mere educational gain—great though it may be—to the rank and file of handicraftsmen, exhibitions such as this, and much more the Health and the Fisheries, have a trading side, without which oftentimes the workman would “find his calling and occupation gone,” or rendered extremely difficult of practice. What is the worth in the lump of these exhibitions to those who exhibit, in the shape of increasing business is an interesting question; but it may be answered in a favorable and in an unfavorable wise by numbers who have patronised them. Nations, likewise, who have tried exhibitions as a national speculation can answer in the selfsame dubious manner. The last French exhibition, for instance, is recognised we believe to have been a failure, looked at from its business-fostering aspect. Our own nation, to judge from the number of exhibitions we have had, may be imagined to deem them on the whole a successful stroke of business. The reason that such institutions are thus a means of blessing and of bane at one and the same time is not far to seek.

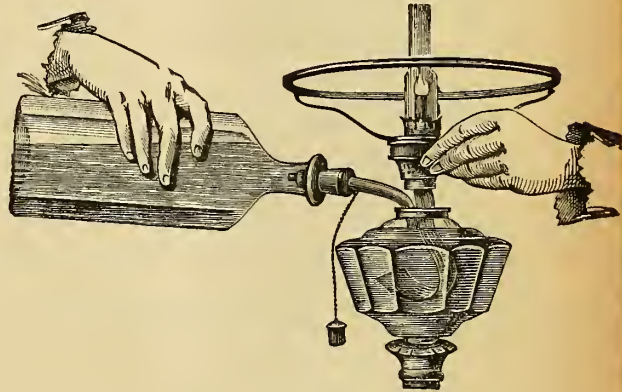
Exhibitions, like businesses, cannot be managed by the mere heaping together of goods in one spot, either by individual firms or a number of them: the tact that brings buyers to the goods thus gathered—or makes them the means of gaining customers—is of as much, perhaps relatively more, importance than procuring the goods themselves. The wise exhibitor does not simply rest at displaying his goods, as if they alone were sufficient to work his business. He is on the spot to secure his customer, to follow up a half-formed need, to study wants, present and prospective. In the latter view the presence of innumerable throngs of guests is admirably favorable for business. The going to and fro among such a mass of folk to the observant man is, moreover, excellently fitted to sharpen the business tact and appreciation of the wants of the customer of each individual calling or business. But over and above these openings for business among the general public,

there are the chances offered by the presence of the exhibitors themselves. Many a stroke of business of the first importance has been brought about by the display of the modes of working and the products of industries hitherto considered unconnected. To sum up the whole question: the elementary qualifications of observation and reflection lie often at the bottom of the success of exhibitions as of private businesses.

## NEW GOODS.

### SAFETY LIQUID OUTPOURING APPARATUS.

THE difficulty attendant on decanting or transferring liquids from one vessel to another, without spilling, particularly in the cases where the receptive vessel has only a narrow or otherwise awkward mouth, has been met by a contrivance brought out by Messrs. Sabatier & Co., of Bread Street Hill. The apparatus in question consists of a bent tube fixed to a cork stopper, which tube is so designed that it allows



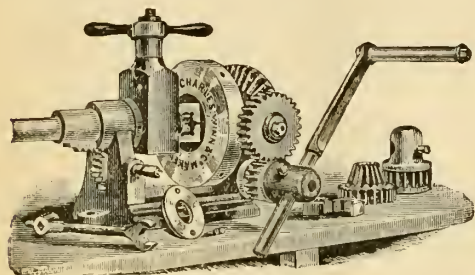
of liquids passing through it to issue only to the extent that the nozzle of the tube is inserted in the vessel which is being filled—in other words, as soon as the liquid rises to the nozzle of the tube it ceases flowing. The apparatus is grounded on an atmospheric principle. On this account, the cessation of air-bubbles coming to the surface of the liquid is further indicative of the tube having performed its task. To use the apparatus it is needful first to fix the cork stopper in the bottle to be emptied, the cork being cone-shaped to facilitate fixing. The advantage of an apparatus of this kind in filling, say, paraffin lamps, is at once obvious. The tube should be withdrawn when the operation is completed, with its nozzle gently lifted upwards. The apparatus is the subject of a patent.

### IMPROVED PORTABLE HANDPOWER SCREWING MACHINE.

THIS machine is designed to facilitate the turning of screws on the ends of pipes, and is intended for the use of various trades. It is extremely simple in its design, so that inexperienced persons can make use of it. The machine takes pipes from  $\frac{1}{2}$  inch up to 2 inches, and there is no fear of breakage from its grip. It is superior,



to apparatus hitherto in use by its instantly releasing the pipe after the operation, thus saving time, while the instantaneous readjustment and the self-centering of the dies ensure accuracy and uniformity. It is made in three sizes; and various modifications allow of increasing its speed for smaller pipes, attaching of a



tube cutting-off arrangement, or fixing of pulleys for driving by steam. Messrs. C. Winn & Co., of Granville Street, Birmingham, are the introducers; and their London Manager, Mr. Barnes, at 41, Holborn Viaduct, will show the apparatus.

### OVERWORK.

A LARGE amount of sentimental rot gets into print about men killing themselves by overwork. In nine out of ten cases of this kind, the true cause of death will be found to be something besides overwork. We all know professional and business men who work harder than they ought, and yet, by taking good care of themselves in the way of diet, exercise, etc., manage to enjoy good health, and wear a cheerful, hearty look. Those who die from "overwork," generally use liquors and tobacco without moderation, keep late hours, and indulge in hazardous speculations outside of their legitimate business. Late hours, liquor and tobacco engender weak nerves, and upset the functions of the body, while anxiety over speculative schemes acts upon the brain. With these evil agencies working against a man, some slight exposure brings on an attack of illness, and the whole body being weakened, gives way in a very short time. The sudden illness and speedy death baffle medical skill, the stricken family and shocked friends are told that overwork was the cause of death, and the press bemoans the tendency of our civilization to kill people by overwork, when the real cause of nine-tenths of these deaths is as outlined above.

### TO OUR GIRLS.

PEOPLE who pay for a thing demand thorough workmanship or none. To offer incomplete work for complete market price, is to be either a cheat or a beggar. The terrible grinding laws of supply and demand, pay and receive, give and get, give no quarter to shilly-shally labour. The excellence of your intentions is nothing to the point. The stress of your poverty has not the slightest connection with the case. An editor will never pay you for your poem because you wish to help your mother. No customer will buy her best bonnet or her wheat flour of you because you are unable to pay your rent. When you have entered the world of trade, you have entered a world where tenderness and charity and personal interest are foreign relations. Not "for friendship's sake," nor "for pity's sake," nor "for chivalry's sake," runs the great rallying cry of this great world—but only "for value received."

### WORKSHOP HINTS.

THE appearance of walnut may be given to white woods by painting or sponging them with a concentrated warm solution of permanganate of potassa. The permanganate is decomposed by the woody fibre, and brown peroxyl of manganese is precipitated, which is afterwards removed by washing with water. Some kinds of wood stain rapidly, while others require more time. When the wood is dry, varnish, and it will resemble the natural dark woods.

A MUCILAGE, composed as follows, will join wood, porcelain, or glass: Eight and one-half ounces of gum arabic in strong solution, twenty grains of solution of alumina dissolved in two-thirds of an ounce of water.

To blacken brass, dissolve 6 parts of carbonate of copper in 50 parts of water of ammonia, and add 100 parts of water. The work to be blackened should be suspended in the liquid from a brass or copper wire. To polish, rub with an oiled rag.

To cut glass tubes, as for water-gauges, take a round file, break the small end off square, and with this end scratch a circle on the tube at the desired length, and it will readily snap off where the scratch is made. Another way is to surround the tube with a red-hot iron clasp made of heavy wire, when it will snap off. For extra heavy tubes, when no risk of bad breakage is wanted, is to cut or grind it off with a revolving disc of copper which is kept covered with fine emery and oil.

ONE method to level an oil stone is to grind off the highest parts on a grind stone, and then rub it on a gritty floor or on a board on which parting sand from an iron foundry has been sprinkled. The stone may be rubbed on the surface of a smooth iron casting before it has been cleaned of the sand. Another way is to lay a sheet of glass or sand paper, say about No. 2, on a smooth board and rub the stone down on this. A few minutes' rubbing will be found to be sufficient.

To stain butternut in imitation of black walnut, wash the wood thoroughly with lime water, and then varnish or polish. This will give an imitation of the fine lines and grains. Cherry wood washed with lime water will make an imitation of mahogany.

To remove varnishes and paints from wood work, the following process may be employed: The coat to be removed is covered with a very concentrated solution of gum, which is allowed to dry without the aid of artificial heat. The gum in drying cracks and splits, and may easily be removed by gently tapping it. In breaking off, it carries the underlying coat of paint or varnish with it. Large surfaces are coated with a layer of soft soap; this is allowed to remain over night and washed off with warm water on the following day, when the paint will be removed. Another method is to take 1 lb. pearl ash, 1½ lb. new lime, and 20z. soft soap, mix to the thickness of paste; apply with a stiff brush. Allow it to stand two hours. Then wash off with hot water.

SOME thoughtful and observant machinist has remarked that "a good tool is half the work." That stands to reason—for the tool performs no inconsiderable portion of the work—and it therefore follows that a good workman takes care to have good tools. Now, tools are all right as a general thing, but slovenly and negligent workmen soon injure them through want of proper care, thus decreasing their own capacity for turning out work. Such men soon ruin a fine plant. To injure in this way finely-wrought and expensive machinery such as is to be found in all sewing machine factories is a species of passive vandalism for which no excuse can fairly be urged. One of the first duties a factory superintendent owes to his employers is to see that the valuable property of his company does not suffer from want of proper care, and he can only do this by keeping a look-out for workmen who persistently neglect or otherwise injure the tools and machinery, and discharging them.

## MINERS' SAFETY LAMP—THE ELLIS LEVER COMPETITION.

THE adjudicators for the prize of £500, offered by Mr. Ellis Lever for a new safety-lamp, have now reported. They are Mr. Thomas Burt, M.P., nominated by the Central Board of the Miners' National Union; Prof. Grylls Adams, by the Council of the Royal Society; Sir Frederick Abel, by the Council of the Society of Arts; and Professor Sylvanus Thompson, by Mr. Lever. The report, which all the adjudicators sign, says:—

The adjudicators had to examine 108 lamps; of these four were electric lamps, and 104 oil lamps, of which a few were designed to burn mineral oils. With respect to the electric lamps, there was not one which fulfilled, or approached fulfilment of, the conditions of the award. All the lamps which fulfilled the preliminary requirements were submitted to a series of experiments of progressively increasing severity. These experiments, based upon the experience gained by the Royal Commission, and by experiments instituted by other bodies in this country, were calculated to fulfil even exceptional conditions to which lamps may be exposed in actual practice. While there was a considerable number of lamps which behaved satisfactorily under the normal conditions existing in mine workings, the number was reduced to very few as the extreme tests were reached. Of these there is no one lamp that perfectly fulfils the whole of the conditions enumerated in No. 2, and the adjudicators are consequently unable to make the award to any one of the lamps submitted. Among the best there are two which the adjudicators regard as deserving of special mention—the Marsaut lamp, with three gauzes, which most nearly fulfilled the conditions, and the lamp of Mr. William Morgan, Pontypridd, South Wales, which presents several good features of marked originality.

The conditions of the prize, which were announced in March, 1883, were:—1. The £500 to be invested in the names of three trustees, one of whom shall be Mr. Thomas Burt, M.P., the other two to be chosen by the Central Board of the Miners' National Union.—2. The lamp to be a perfectly self-contained electric lamp, or other lamp, which the working miners can conveniently carry from place to place in the mine, which will continue to give a useful amount of light for not less than twelve hours, and which will not cause an explosion of gas under any circumstances at all likely to represent conditions which may occur in actual practice.—3. The efficiency of the lamps put in for competition, to be submitted to five gentlemen, composed as follows:—Three scientists to be named hereafter, one to be selected by Mr. Lever, one by the Council of the Royal Society, and one by the Council of the Society of Arts, one person representing the Mining Engineers, chosen by themselves, and one person representing the workmen, chosen by the Central Board of the Miners' National Union.—4. The adjudicators to meet in London after the allowed time for sending lamps for competition has elapsed.—5. The prize will not be awarded to any lamp now in use.—Not drawings or specifications, but lamps in a condition fit to be tested, must be sent for examination by the adjudicators.—7. The lamps must be sent to No. 2, Victoria-street, Westminster, London. No lamp to be sent in before Dec. 1, or none later than Dec. 31, 1883.—8. If a lamp meeting the requirements herein stated has not been invented, the £500 to revert back to Mr. Ellis Lever.

A CURIOUS exemplification of the relative dearness of gas comes from Boston, U.S. When the electric light was introduced, the city was paying \$2 per 1000 feet for gas, and private consumers were paying \$2.80. Now the city pays \$1.30, and private consumers \$1.80. Boston has been a liberal patron of the electric light.

## TRADE NOTES.

Messrs. Davison and Hall have taken offices at 19, Lawrence-lane. Mr. J. W. Ellissen has removed from Distaff-lane to 36, Gresham-street.

The National Sewing Machine Company has taken show-rooms at 37, Fetter-lane.

Mr. Edwin Farmer, manufacturers' agent, has taken warerooms at 1A, Aldermanbury-avenue.

Messrs. R. C. Poole and Co., mantle manufacturers, have removed from Distaff-lane to 114, Queen Victoria-street.

Messrs. E. Blackaby and Co., manufacturers' agents for buttons, braids, and fringes, have taken offices at 29A, Carter-lane.

Messrs. Tingle, Jacobs and Co., general carmen and carriers, have removed from London-wall to 8, Aldermanbury-postern.

THE *American Exporter* says that a manufacturing company of Hartford, U.S., have recently shipped for Glasgow, Scotland, a part of a large order for machinery for a sewing machine factory.

Mr. John Scott, patentee and sole manufacturer of Scott's Family Fire Escapes, has removed from 22, Newton-road, Westbourne-grove, to 13, King William-street. These fire escapes have been very successful in recent trials and practical tests at fires.

A BOBBIN winder for sewing machines has been patented by Mr. Henry M. Dixon, of New York City. This invention facilitates the winding of bobbins and provides a mechanism for cutting the thread automatically when the bobbins are filled.

BUSINESS should be fostered by the new Grecian Customs Bill, for it allows of the importation, duty free, of upwards of 800 articles which are considered to be necessities, including iron, and metals used in industry, coal, and other fuel. On the other hand it increases the duties on manufactured goods and luxuries.

THE trials of sheaf-binding reapers by the Royal Agricultural Society, which have just been concluded at Shrewsbury, have resulted as follow:—First prize of £100, Richard Hornsby and Sons (Limited), of the Spittlegate Ironworks, Grantham, for their sheaf-binding reaper, No. 4568 in catalogue; second prize of £50, James and Frederick Howard, of the Britannia Ironworks, Bedford, for their sheaf-binding reaper, No. 47. Messrs. Hornsby are to be congratulated on adding another to their already long list of successes.

TRAVELLERS who pass through the St. Gothard Tunnel little dream of the revolutions in trade which the opening of this new route has caused. We learn from Harwich that the amount of eggs which comes by it from North Italy is on the average between 50 and 60 tons in every 24 hours. On one day in the present year the stupendous amount of 130 tons, representing about two millions of eggs, was landed at Harwich and sent on to London by the Great Eastern Railway.

ENGLISH competitors need to beware. It is said that the American Troy Laundry Machinery Company is to establish a laundry in London. The enterprise will be organised with the help of a number of young American girls specially sent over to teach us English to wash and iron. Besides receiving good wages, the passage of these young women will be paid each way, and they will be given three weeks' vacation, with full pay, to see the sights before they return, at the end of their nine months' visit.

A useful way of cooling butter in hot weather without ice is by the process of evaporation. This process may be managed with a very large porous earthen flower-pot and a large saucer. Half fill the saucer with water, set it on a trivet or light stand; upon this set your butter. Over the whole insert the flower pot, letting the top rim of it rest in, and be covered up by, the water; then close the hole in the bottom of the flower-pot with a cork, then dash water over the flower-pot, and repeat the process several times a day, or whenever it looks dry.

DURING a storm at Greenville, R.I., the lightning ran by the tele-



phone wire to the Winsor Mill, where there is no telephone, but the wire is disconnected just outside the building. The lightning was led by the wire to the corner of the mule and weaving rooms, and entered the building under the jet. It followed the water pipe and set the sprinklers going, and at the same time fired the stock in the mules. By this singular provision of an active extinguishing agent at the moment the fire started, serious loss was prevented, as the fire was soon drowned out. Many of the spindles in the mules lost their temper, and some of the belts were burned, but the mill was saved.

*Kemp's Mercantile Gazette* states that the number of failures in England and Wales gazetted during the week ending Saturday, August 16, was 53. The number in the corresponding week of last year was 188, showing a decrease of 135, being a net decrease in 1884, to date, of 4,446. The number of bills of sale published in England and Wales for the week ending August 16, was 189. The number in the corresponding week of last year was 218, showing a decrease of 29, being a net decrease in 1884, to date, of 574. The number published in Ireland for the same week was 16. The number in the corresponding week of last year was 8, showing an increase of 8, being a net decrease in 1884, to date, of 571.

A SYNDICATE has been formed containing some influential names, and having offices at 43, New Broad-street, for purchasing the letters patent for Great Britain and Ireland taken out by Mr. Edwin Sturge for his invention of a new motive-power for propelling tricycles and other light carriages. The whole capital of £10,000 for acquiring the patent has been taken up, and it is intended to form a limited company and transfer to it the patent right for the sum of £50,000. The invention, though only at present designed for light traffic, is capable of great development by its simplicity and practical and effective usefulness. Negotiations are already in progress with the Post Office authorities with reference to the invention and its adoption for the use of carriers of letters and post parcels in country districts.

THE United States *Sewing Machine Times*, speaking of Canadian petroleum, says: "Most sagacious of British commercial potentates and financial princes, why go to India for what is lying around in waste thousands of miles nearer home? For has not Captain Wm. Kennedy, the Arctic navigator, openly declared, 'that in the neighbourhood of Lake Athabasca, in Northwestern Canada, there is a great store of petroleum running to waste.' He says: 'The oil springs have overflowed the surface of the country for a space of more than forty miles, and, running down to the river, the oil is carried to the lake, where it floats on the surface. The only use at present made of it is by the Indians boiling it to the consistency of pitch and using it for coating canoes, etc.'"

A SUCCESSFUL experiment in balloon steering has just been accomplished at Meudon in the neighbourhood of Paris. The balloon was shaped like a long cigar, and furnished with a screw and rudder. The ascent was made from the balloon works at Meudon. At first the balloon was permitted to rise to a height a little above the plateau of Chatillon. The screw was then set in motion by means of machinery, and the balloon after slightly rocking for a moment, gradually quickened its speed, and moved eastward at the rate of some 10 miles an hour. When it was over Meudon Forest the rudder was handled, and the balloon sailed steadily toward Petit Bicetre. Then it was turned completely, and after a voyage of twenty-five minutes descended at the exact spot from which it had risen. The experiment was conducted by M. Charles Renard, captain of Engineers. The balloon was watched by large crowds on the banks of the river.

ACCORDING to the American Prof. Bailey, America will soon be independent of England for its supply of tin. He reports that the Black Hills region is able not only to supply America, but the whole world, with tin for centuries to come. The centre of the tin district appears to be Harney Peak, itself the principal mass, and from this point it spreads over an acre measuring twelve miles by

seven or eight. The tin-bearing rock can be quarried from the surface instead of being dug for and followed underground, and veins exist measuring more than fifty feet in width, of a better average than Cornish tin. The stream tin, which can be obtained by sluicing, will yield about seventy-five per cent. of pure tin, and this is alone so abundant that all the companies that could possibly work it could go on for twenty years without exhausting it. Yet this is but the waste, so to speak, of the main deposit. So much for the Professor's report; but it would be wise to wait for the proof of facts.

THE South Eastern Railway Company have just turned out from their works at Ashford a new six-wheeled detaching composite carriage, which is said to be unique in this country. The principal feature in the carriage consists in its paelling being electro-plated, which was suggested to avoid the expense of repainting. The vehicle is 32 ft. long, and consists of two first-class compartments 6 ft. 10 in. long, giving 28.88 cubic feet of space per passenger; two second-class compartments, 6 ft. 3½ in. long, giving 40.25 cubic feet of space per passenger; and a guard's compartment. The carriage is luxuriously fitted, and both the interior and exterior have a very handsome appearance. The mouldings are of sheet copper, stamped out under the press and electro-plated. In order to obtain greater strength metal has been chiefly used in the construction of the carriage. All the pillars and roof sticks are of angle iron; the under-frame is made entirely of iron, while riveting has been brought into use wherever practicable. The carriage is to be attached to the morning down mail from Charing Cross, and slipped at Shorncliffe.

WHEN a Swedish girl is about 13 or 14 she receives a gift of some 20 pounds of flax, grown on her father's farm, or other estate, and also retted, heckled, and spun into thread thereon. Women weave this by hand, and when it is bleached it is ready for her to fashion into household linen, so that by the time she is 21 she is provided with an outfit. Meanwhile she occupies herself with the finest crochet, lace, or embroidery, with which she adorns sheets and pillow slips, which are so strong as to be likely to last her life. If she marries, she has her linen ready for her new abode; if she remains single, it is still considered a good investment, since she may either use it or sell it. But nothing can exceed the delicacy of the linen and its trimmings, or the neatness of a Swedish girls' bed-chamber. The bedrooms are used as sitting room, during the day. Cupboards and hanging closets for clothes, which serve as wardrobes, are hidden in the walls and papered like the apartment, the washstand is small, and closes; the bedstead is on the telescopic principle, which enables it to shut up to half its length. In the day time the bedding is doubled up neatly, and has a pretty white covering thrown over it. This is removed in the evening, the bedstead is drawn out, and the linen sheets, with their dainty insertion, are laid over the covered coverlet, which is either silk or cretonne, wadded and quilted at home, after the fashion of an eiderdown quilt. ANNE BEALE, in the *Girls' Own Paper*.

IN a show of weft stuffs opened at the Agricultural Hall on August 4th, Messrs. Willcox and Gibbs have some hosiery and embroidery machines, and machines for cloth manufacturers and dyers. Messrs. A. Clegg and Co., of Fore Street, some kilting, braiding, and embroidery machines, and sewing machines for household and manufacturing purposes. Messrs. Bradbury and Co. (Limited), Newgate-street, several of their numerous varieties, including family and medium machines for household and dressmaking purposes, rotary shuttle machines, the S. hand machines, the Wellington hand machines, kilting machines, and Belgravia spool machines. Messrs. Beathe, Schiess & Co., of Aldersgate-street, have a Victorian cloth-cutting machine in operation, which is provided with a patent waved-edged band knife, by which it will cut any thickness of material. It can be driven by hand power, and is perfectly silent in its operations. Messrs. Andrew and Co., of Queen Victoria-street, exhibit the "Stockport" patent gas engine, which works by ignition of a charge

of gas and air under compression. It is specially suitable for electric lighting, and other purposes where steady turning is indispensable. The Simplex machine belting is exhibited by Messrs. David Moseley and Sons, of Milk Street. It is specially adapted for main driving, not being affected by temperature or moisture. The Scandinavian Belting Company, of Queen Victoria-street, show another kind of durable belting. We shall give a lengthy report of this in our next.

## TENDERS WANTED.

THE Directors of the Imperial Railways in Alsace are prepared to receive tenders for supplying joiners and locksmiths' tools, files, anvils, paint and other brushes, locks, grindstones, drawbeams, differential pulleys, and various kinds of cans.

THE Directors of the Royal Railroad in Hanover are prepared to receive tenders for supplying screws of various kinds, to the extent of 128 tons. Particulars can be obtained, on the forwarding of S1., to the Materialien Office, Royal Railroad, Hanover.

THE Authorities of the Town of Rennes (Ille-et-Vilaine), France, will receive tenders for hardware and locksmithery, cast iron pipes, railings, stairways, &c., to the extent of upwards of £13,000.

THE Royal Prussian Director of Posts is prepared to receive tenders for supplying 3,000 litres of petroleum. Address to Canal 18, Room 5, Potsdam.

THE Third Brandenburg Uhlan Regiment, Furstenwalde, are prepared to receive tenders for articles of regimental equipment in metal, fur, and leather.

THE Imperial Authorities at Kiel are prepared to receive tenders for drags, hoathooks, lifebuoys, speaking trumpets, smoke spectacles, cases, paint pots, copper funnels, flasks, &c.

THE Commissioners of the Royal Hospital, Chelsea, are ready to receive tenders for clothing the invalid soldiers, &c., belonging to the hospital, for two years, viz :—Whole mounting for 1885, half mounting for 1886.

THE Magistrates and Council of Glasgow (Police) are ready to receive tenders for supplying and fitting up heating apparatus required in connection with buildings for Administrative Department, Belvidere Fever Hospital.

THE Governors of Cork District Lunatic Asylum are ready to receive tenders for supplying and erecting two stoves and a circulating boiler for Turkish bath.

THE Municipal Council of Somerset East, Cape Colony, require tenders for the supply and delivery in England of about 400 tons of straight pipes (9in. to 3in. diameter), and special castings, and of a number of sluice and air valves, hydrants, and fittings. Specification and drawing at the Standard Bank of South Africa, Clement's-lane, E.C., between 11 and 2, on and after 18th inst., and copies of the specification and form of tender can be obtained there, on payment of half-a-guinea. Tenders, which must be endorsed on the outside "Tender for Pipes, &c., Somerset East," and addressed to Robert Stewart, Esq., Standard Bank of South Africa, Clement's-lane, E.C., must be delivered by noon on September 6th.

THE Guardians of Fulham Union are prepared to receive tenders for the supply of the necessary hose, hand pumps, and other appliances for extinguishing fire, required for their new infirmary, Fulham Palace-road, Hammersmith.

THE Cardiff Waterworks Committee invite tenders for sluice valves, lifting gear, &c.

THE Manager of the Champfleurie Railroad, Linlithgow, is ready to receive tenders for supplying and erecting complete the wire fencing required on the Champfleurie Railway, Linlithgow; also for supplying and erecting, complete, the malleable iron girders required on the same Railway.

MR. EDW. Z. THORNTON, secretary, 31, Lombard-street, E.C., for the Board of Directors of the Southern Mahratta Railway Company, is ready to receive tenders for the supply of iron underframes, under-frame and body ironwork, and fittings, for first, second, and third-class carriages, composite carriages, horse boxes, and brake-vans.

THE Chairman of the Middleton (Lancs.) Gas Commissioners is ready to receive tenders for 1,000 yards of 3in., 500 yards of 4in., and 500 yards of 6in. cast-iron gas mains, for the Middleton and Tonge Improvement Commissioners.

THE Minister of Posts and Telegraphs, Rue Grenoble, 10, Paris, is ready to receive, up to 4th September, tenders, in three lots, for a large quantity of telegraphic material; also for the maintenance and supply of hot air stoves for the post wagons; also, in five lots, for galvanized iron wire, galvanized steel wire, phosphor bronze wire, bells, soldering tools, &c.

## HARDWARE TRADE REPORTS.

DURING the past month business has been fairly active in the smaller wares; the more expensive goods, however, are neglected, as is to be expected at this season when Parliament is prorogued and the wealthier inhabitants and business folk generally are mostly out of town. Orders for the autumn and winter are not so promising as they are usually about this time, which must be traced to the influence of fine weather. Export business is also somewhat flat.

In Birmingham there is no improvement in the hardware branches, and though most establishments are in fairly regular occupation, a large proportion of the produce of the factories is for stock in anticipation of next season's requirements. From the metropolis travellers report few orders obtainable. On the other hand business with the seaside places and holiday resorts generally is well maintained, hotel fittings and furnishing requisites being in growing demand; also light steel toys, bell pulls, lawn mowers, and ornaments of various descriptions. Mediaeval art metal workers are busy on mural brasses, ecclesiastic metal work, and chandeliers and brackets for the principal hotels and mansions. Metallic bedstead mounts and tubes are in good inquiry, and the demand for cycle fittings and accessories continues active. Machinists complain of the slackness of new business, and the competition among the bridge and girder makers is steadily increasing. Vice and anvil makers are moderately off for orders, but the small chain trade is quiet, and the wrought-iron fender branch is devoid of animation. In the nail branch there is a growing scarcity of orders, and the iron wire manufacturers have considerable difficulty in keeping their machinery going with regularity. Electro platers are no better employed, and the iron-plate workers are indifferently supplied with orders.

In Sheffield the heavy departments trade evinces considerable activity in the manufacture of armour plates and machinery for ocean-going steamers. In the rail mills, however, the languor which has prevailed for so many weeks still continues, and very little is being done in the boiler and ship plate branches. The same may be said with regard to the output of wire and brass work. With the exception of a few cases the cutlery trade is very quiet, and in the silver and electroplate business nothing is being done.

WORKERS in ornamental wood now assert that yellow pine, hard finished in oil, is the rival in beauty of any wood that grows, not excepting the costliest of the hard species, it being susceptible of receiving and maintaining as high a degree of polish as any known wood, while, when impregnated with oil, it is almost indestructible. In such a condition it is impervious even to hot grease and other substances that leave an ineffaceable stain upon white pine, maple, and various other woods.



## LONDON MARKET REPORT.

THE London iron and metal markets during the past month have shewn very unsettled symptoms, and quotations have fluctuated considerably, being generally lower than last noted. Little or no business has been done; but the prospects with a bountiful harvest are not to be considered bad. The copper market has shewn greater ease, but tin has been undecided, while other metals either show only slight movement or permanent dullness. Quotations are:—pig, f.o.b., Clyde, £2 1s. 5½d.; bars, Welsh, in London, £5 7s. 6d.; rails, Welsh, at works, £4 17s. 6d.; sheets, £7 10s.; English spring, steel, £12; cast, £30; pig lead, common, £11; sheet and bar, £12; pipe, £12 5s.; nickel, £12 5s.; spelter, Silesian ordinary, £14; English, £15 10s.; sheet zinc, £17 15s.; tin, English ingot, £85; bars, £86, refined, £87; copper, tough cake and ingot, £58; Chili bars, £52 2s. 6d.; phosphor bronze alloy, I. and II., £112; brass wire, 6½d.; tube, 8½d.; sheet, 7½d.; yellow metal, 6d.; tin plate charcoal, £1 1s.; seconds, 18s. per box.

## GERMAN MARKET REPORT.

THE German iron market has remained on the whole but moderately active during the past month, foreign competition, particularly English, depressing the market. Prices are:—ordinary bar iron, 11 marks; flat iron, 11.50 to 12; band iron, 13; quality bar iron, 12 to 13; fine grain iron, 14; best quality, 15. Sheet iron, coke, inferior, 16.50 to 17; quality sheet, 1.50 to 2 higher.

## SWISS WATCH MAKING.

THE business of watch-making in Switzerland dates back from 1587, taking its rise in Geneva, and gradually spreading to Neuchâtel, Berne, and Vaud. There is an absence of information on the subject, but from calculations made in 1866, it appeared that in the canton of Neuchâtel there were 13,706 workmen, turning out yearly nearly 1,000,000 watches, valued at f. 50,000,000; in the Jura Vaudois 2,700 workmen; in the rest of this canton there were 5,000 workmen engaged in this manufacture and in that of musical boxes; in Berne about 1,300 craftsmen, producing watches valued at f. 30,000,000. At the present day the annual production of watches in Switzerland exceeds 1,600,000, with an aggregate value of f. 88,000,000, the workmen employed averaging 40,000. The exportation of watches in 1882 was 154,500 kg. or 25,300 more than in 1881, while 46,400 kg. were imported; the latter, however, were chiefly articles intended to be finished and re-exported. A novel kind of watch has been recently invented by Mr. Paul Kramer, at Neuchâtel, but, owing to the defective state of the law, the inventor has been obliged to patent it in France. This watch is called *aiguilles universelles*, and indicates simultaneously the times of different countries; one, for example, shows the different times for Paris, Suez, Bombay, and Hué, and another for New York and San Francisco.

# THE LONDON GAZETTE.

## BANKRUPTCY ACT, 1883.

Adjudications, Receiving Orders, Meetings, &c.

Clarke, Arthur, Watling-street, City, and elsewhere, engineer, September 17, at 11.

Shilson, Daniel, Plymouth, marine engineer, August 29, at 10, at the Official Receiver's Offices, Plymouth.  
D. Hutchison, Bromley-by-Bow, Middlesex, ironfounder, at the High Court of Justice in Bankruptcy, July 11; discharge granted.  
Jones, William, Bath, ironmonger, September 18, at 11.  
Hawkins, F. W., and W. Houghton, Bristol, hardware factors, August 28, at 3.15, at L. J. Sharp's, Birmingham.  
Blake, T. H., Sheffield, spoon and fork manufacturer's manager, August 28, at 3, at the Official Receiver's Offices, Sheffield.  
Bradley, John, Sheffield, electroplate manufacturer, August 27, at 4, at the Law Society's Rooms, Sheffield.  
Fox, G. A., Lincoln, ironmonger, at Lincoln Court, August 15.  
McIntyre, B., Liverpool, draper, at Liverpool Court, August 15.  
Pembleton, E., Arnold, Nottinghamshire, machine builder, at Nottingham Court, August 12.  
Culloden, J. A., Leeds, tinmer, at Leeds Court, August 29: Official Receiver, Leeds.  
Willey, F., and S. Tebbutt, Liverpool, cutlers, at Liverpool Court, September 6; G. Mahon, Liverpool.  
Bolton, Ann Maria and Herbert Henry Bolton, Birmingham, electroplate manufacturers, October 9.  
Grimehaw, J. T., Accrington, Lancashire, mechanical engineer, August 29, at 12, at the County Court Blackburn.  
Slove, F. P., Ilfracombe and Braunton, Devon, collar manufacturer, at Barnstaple Court, June 6.

## Dividends Payable.

Windus, A. G., and J. Dunsmore, Crewe-street, Millwall, manufacturing engineers—20s., August 16, at 3, Lothbury, City.  
Ludford, W., (separate estate), Wilnecote, Warwickshire, millwright—2s. 9d., August 25, at the Official Receiver's Offices, Birmingham.

## Trustees Appointed.

Wood, J. B., Kidderminster, ironmonger, at Kidderminster Court, September 29; W. N. Fisher, Birmingham.  
Watts, J., Chertsey, ironmonger, at Kingston Court, August 30; A. H. Stoneham, Official Receiver, St. Swithin's-lane, City.

## BANKRUPTCY ACT, 1869

### Partnerships Dissolved.

Lees, W., and J. Lees, Wolverhampton, japanners.  
Gadd, D., and F. Gadd, Rowley Regis, Staffordshire, nail manufacturers.  
Watson, J., and G. Watson, Oldham, sewing machine makers.  
Wright, F., and A. Sheffield, Rhyll, Flintshire, ironmongers.  
Keeling, E. B. N., and J. H. Sewell, Elm-street, Gray's-inn-road, art metal workers.  
Sturgeon, J., and H. J. Sturgeon, Wood-street, City, trimming manufacturers.  
Smith, C. G., and R. P. Watts, Gainsborough, wholesale ironmongers.

## SCOTCH GAZETTE.

Pennycook, Charles Hill, Glasgow, heating and gas engineer, August 26, at the Faculty Hall, Glasgow.

# PATENTS.

*The following list has been compiled expressly for this Journal by Mr. G. F. Redfern,  
Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.*

## APPLICATIONS FOR LETTERS PATENT.

- No. 10,031. A. C. Robinson, of Burnage, Lancashire, for improvements in bicycles and tricycles. Dated July 11, 1884.
- „ 10,043. R. C. Thompson, of Hayter Road, Brixton Rise, London, for improvements in velocipedes. Dated July 11, 1884.
- „ 10,046. M. McCarty, of Rolls Road, Old Kent Road, London, for an improved variable driving gear for velocipedes. Dated July 11, 1884.
- „ 10,049. A. Besson, of Paris, for improvements in stoves. Dated July 11, 1884.
- „ 10,056. C. R. Stevens, of Brockley Road, London, for improvements in side reflecting lamps. Dated July 11, 1884.
- „ 10,062. E. A. Norrington, of Kensington, London, for improvements in means for assisting velocipedes in starting and in ascending hills, and for assisting gas engines in starting. Dated July 11, 1884.
- „ 10,081. W. H. Freeman, of Aston, near Birmingham, for improvements in the manufacture of guards of lamps. Dated July 12, 1884.
- „ 10,114. H. Hirst, of Accrington, Lancashire, for improvements in washing machines. Dated July 14, 1884.
- „ 10,124. W. Cheesman, of Anersham Vale, New Cross, London, for improvements in bicycles, tricycles, and such like. Dated July 14, 1884.
- „ 10,125. E. Jagger, of Oldam, for improvements in slow combustion stoves. Dated July 14, 1884.
- „ 10,126. H. Bezer, of Teddington Park Road, Teddington, for improvements in apparatus for sharpening razor or other blades. Dated July 14, 1884.
- „ 10,141. E. R. Settle, of Southampton Buildings, London, for improvements in or applicable to bicycles. Dated July 14, 1884.
- „ 10,181. H. E. Newton, a communication from O. R. Van Vechten, of New York, for improvements in over-stitch sewing machines. Dated July 15, 1884.
- „ 10,192. W. R. Lake, a communication from J. H. Palmer, of Philadelphia, Pennsylvania, United States, for improvements in and relating to button-hole attachments for sewing machines. Dated July 15, 1884.
- „ 10,206. W. R. Warner, of Sparkbrook, Birmingham, for increasing the speed of velocipedes. Dated July 16, 1884.
- „ 10,220. P. A. Maignen, of Great Tower Street, London, for improvements in taps. Dated July 16, 1884.
- „ 10,222. J. A. Lamplugh, of Birmingham, for improvements in luggage valises for tricycles and other velocipedes. Dated July 16, 1884.
- No. 10,227. A. Kirby, of Bedford, for improvements in the construction of velocipedes. Dated July 16, 1884.
- „ 10,249. A. S. Bowley, of Streatham, Surrey, for improvements in propelling bicycles, tricycles, and other velocipedes. Dated July 17, 1884.
- „ 10,273. E. G. Mattilan, and H. Smith, both of Shaftesbury Road, Hammersmith, London, for improvements in velocipedes. Dated July 17, 1884.
- „ 10,277. J. Gale, of Plymouth, for improvements in water heaters, for baths, hot houses, and other purposes. Dated July 17, 1884.
- „ 10,278. J. B. Cox, of Torquay, for improvements in ovens for baking and roasting. Dated July 17, 1884.
- „ 10,301. G. Skudder, of Thorburn Square, London, for improvements in apparatus for supplying disinfectants to water-closets, urinals, and drains. Dated July 18, 1884.
- „ 10,328. W. Erck, of Shankhill, Dublin, for improvements in stoves, for domestic purposes. Dated July 19, 1884.
- „ 10,331. V. Mousel, of Vilvorde, Belgium, for a new and economical gas stove. Dated July 19, 1884.
- „ 10,336. R. W. Brownhill, of Birchfield, Handsworth, near Birmingham, for the improved self-acting revolving cooking-stove. Dated July 19, 1884.
- „ 10,338. W. Whitstull, of Aston, Warwickshire, for improvements in apparatus for registering the distance travelled by bicycles, tricycles, and other like carriages. Dated July 19, 1884.
- „ 10,339. E. E. Hewett, a communication from J. Memmott, of Worcester, United States, for improvements in the manufacture of razor blades. Dated July 19, 1884.
- „ 19,344. A. R. Brown, of Harrow, London, for an improved tricycle, to be called "Unicorn touring tricycle. Dated July 19, 1884.
- „ 10,346. C. Swain, of Luton, for improved mechanism for increasing the speed of treadle sewing machines. Dated July 19, 1884.
- „ 10,349. J. K. Starley, of Southampton Buildings, London, for improved means for fitting saddles or seats to velocipedes. Dated July 19, 1884.
- „ 10,353. A. G. Brookes, a communication from J. W. Bowers of Franklin, Norfolk, Massachusetts, United States, for improvements in punching machinery for the manufacture of axes, pickaxes, and other articles. Dated April 15, 1884.
- „ 10,363. A. J. Boulton, a communication from C. H. Olson, of Decatur, Illinois, United States, for screw drivers. Dated July 19, 1884.
- „ 10,369. F. Cooper, of Oxford Street, London, for improved means for holding gas and other globes, chimneys and shades in position. Dated July 19, 1884.
- „ 10,404. R. E. Sprott, of Dromore, Down, for improvements in sewing machines. Dated July 21, 1884.
- „ 10,420. J. E. Dixon, of Nottingham, for an improved two wheel velocipede for carrying two persons. Dated July 22, 1884.
- „ 10,430. N. G. Richards, of Flats, Dewsbury, Yorkshire, for improved atmospheric gas burner. Dated July 22, 1884.
- „ 10,433. T. S. Truss, of Alkindon Road, Chiswick, London, for improvements in hydrostatic automatic valve and piston cocks for regulating the transmission of fluids passing through them, applicable for water-closets, urinals, and other purposes. Dated July 22, 1884.



- No. 10,434. G. H. and A. Brown, both of Southampton Buildings, London, for improvements in domestic fire-places. Dated July 22, 1884.
- „ 10,442. B. Haigh, of Glengall Road, Cubitt Town, London, for apparatus for disinfecting and deodorising closets, urinals, &c. Dated July 22, 1884.
- „ 10,449. H. J. Haddan, a communication from E. H. Foss, of Campello, Plymouth, Massachusetts, United States, for improvement in bicycles. Dated July 22, 1884.
- „ 10,455. G. E. Webster, of Nottingham, for improvements in perambulators. Dated July 22, 1884.
- „ 10,460. E. Newton, of Hitchin, Hertfordshire, for an improved trap for water-closets, and other sanitary appliances. Dated July 22, 1884.
- „ 10,469. F. Orme, of Nottingham, for lifting the drum out of a washing-machine. Dated July 23, 1884.
- „ 10,476. J. Lucas, of Birmingham, for improvements in velocipedes and carriage lamps. Dated July 23, 1884.
- „ 10,479. H. W. Twiggs, of Bristol, for improvements in perambulator wheels. Dated July 23, 1884.
- „ 10,481. W. Jeans, of Christchurch, Hampshire, for improvements in velocipedes. Dated July 23, 1884.
- „ 10,503. W. P. Buchan, of Glasgow, for improvements in and in connection with water and earth closets. Dated July 23, 1884.
- „ 10,504. E. P. Alexander, a communication from W. R. Clough, of Brooklyn, United States, for improvements in corkscrews. Dated July 23, 1884.
- „ 10,533. T. Smith, of Birmingham, for improvements in the construction of bicycle and tricycle heads and in the apparatus for producing the same. Dated July 24, 1884.
- „ 10,535. R. Allen, and W. J. Wakefield, both of High Holborn, London, for speed or power gear applicable to velocipedes and for other purposes. Dated July 24, 1884.
- „ 10,560. F. Siemens, of Queen Anne's Gate, Westminster, London, for improvements in gas lamps. Dated July 24, 1884.
- „ 10,561. C. Robin, of Paris, for improvements in the construction of wheels for bicycles, tricycles, and other vehicles. Dated July 24, 1884.
- „ 10,564. E. W. Brown, of Lower Edmonton, Middlesex, for an improvement in spring door locks. Dated July 25, 1884.
- „ 10,576. H. Cullabine, of Sheffield, for improvements in lanterns or lamps. Dated July 25, 1884.
- „ 10,579. F. Hocking, of Liverpool, for improvements in apparatus for heating and circulating water. Dated July 25, 1884.
- „ 10,582. J. Price, of Fitzroy Place, Easton Road, London, for a movable seat or leg rest for baths. Dated July 25, 1884.
- „ 10,606. E. Lea, of Stratford-on-Avon, for improvements in perambulators, invalid and other carriages. Dated July 25, 1884.
- „ 10,614. B. Hindle and J. S. Harvey, both of Clayton-le-Moors, Lancashire, for improvements in the driving gear of washing-wringing and mangling machines. Dated July 26, 1884.
- „ 10,641. F. Weck, of Lilleshall, Shropshire, for improvements in steering-gear for velocipedes. Dated July 26, 1884.
- „ 10,642. J. C. Cowell, of Higher Tranmere, Cheshire, for a double-valve flushing-box and Water-waste preventer. Dated July 26, 1884.
- No. 10,654. J. S. Harvey, and B. Hindle, both of Clayton-le-Moors, Lancashire, for improvements in the manufacture of end frames, for wringing, mangling and other like machines. Dated July 28, 1884.
- „ 10,664. T. Purdie, Junior, of Glasgow, for improvements in water-closets. Dated July 28, 1884.
- „ 10,671. W. A. Dixon, of Great James Street, London, for improvements in saucepans and other cooking utensils for boiling milk, custards, jams, glue, &c. Dated July 28, 1884.
- „ 10,687. J. Shanks, of Barrhead, Renfrewshire, for improvements in water-closets and urinals. Dated July 29, 1884.
- „ 10,694. F. W. Cheetham, of Hyde, Cheshire, for an improved automatic brake for sewing machines. Dated July 29, 1884.
- „ 10,695. J. P. Simms, of Soho, Staffordshire, for improvements in the mode of attaching metallic tops to lamps and other glass or earthenware vessels. Dated July 29, 1884.
- „ 10,696. C. T. Powel, of Handsworth, Staffordshire, for improvements in alarms for velocipedes, and other purposes. Dated July 29, 1884.
- „ 10,700. J. Omerod, of Haslingden, Lancashire, for improvements in mangling and wringing machines. Dated July 29, 1884.
- „ 10,703. W. B. Shorland, of Manchester, for improvements in or applicable to latches. Dated July 29, 1884.
- „ 10,711. A. C. Houston, of Upper Phillimore Place, Kensington, and R. E. Phillips, of Chancery Lane, both in London, for an improved bell for velocipedes. Dated July 29, 1884.
- „ 10,716. E. A. Jahnke, and W. H. Herbst, both of Dorset Street, Essex Road, London, for improvements in needle cases or like receptacles. Dated July 29, 1884.
- „ 10,717. W. J. Holmes, of Holland Street, Blackfriars, London, for instantly syphoning with great velocity a certain quantity of water in connection with waste preventing cisterns for flushing wash-outs and other closets. Dated July 29, 1884.
- „ 10,725. S. E. Davidson, of Belfast, for improvements in stoves or air-heating apparatus and in apparatus for employing heated air in drying or baking vegetable or other substances. Dated July 29, 1884.
- „ 10,726. G. Rydill, of Swaines Lane, Highgate, London, for improvements in heating cooking ovens, heating water, and for heating purposes. Dated July 29, 1884.
- „ 10,731. R. Weaver, of High Holborn, London, for improvements in flush tanks or water waste preventers for water closets, urinals, drains, sewers, and other sanitary purposes. Dated July 29, 1884.
- „ 10,736. A. S. Bowley, of Streatham, Surrey, for an improved apparatus for propelling bicycles, tricycles and other velocipedes. Dated July 29, 1884.
- „ 10,742. S. B. Goslin and J. J. Brown, both of Cripplegate, London, for improvements in water-closet apparatus. Dated July 29, 1884.
- „ 10,750. R. Longdon, of Deansgate, Manchester, for improved rollers for wringing and mangling machines. Dated July 30, 1884.
- „ 10,751. R. Ann, Handsworth, Staffordshire, for the automatic spring hinge and general fastening. Dated July 30, 1884.
- „ 10,754. E. W. Buller, of Birmingham, for improvements in lock spindles and in attaching them to knobs and handles. Dated July 30, 1884.

- No. 10,768. E. Taylor, of Bury, Lancashire, for improved apparatus for washing clothes. Dated July 30, 1884.
- „ 10,770. W. A. Rudling, and J. F. Coffin, both of Southampton Buildings, London, for improvements in bicycles. Dated July 30, 1884.
- „ 10,772. R. Flosky, of Sagan, Prussia, for improvements in gas burners. Dated July 30, 1884.
- „ 10,773. J. Whittingham, of Nantwich, Cheshire, for improved means of driving and steering velocipedes, tricycles, and other similar machines. Dated July 30, 1884.
- „ 10,777. G. Heaton, of Oldbury, Worcestershire, for improvements in connecting chisels and turnscrows, and other like tools to their handles. Dated July 30, 1884.
- „ 10,779. W. E. Hurrell, of Ivy Lane, Hoxton, London, and W. Spence, of Adelaide Road, Surbiton, Surrey, for improvements in velocipedes. Dated July 30, 1884.
- „ 10,788. R. Laurence, of Steeles Road, Havestock Hill, London, for improvements in bicycles. Dated July 30, 1884.
- „ 10,795. A. Lilwall, C. Binks, and W. James, all of Birkenhead, Cheshire, for improvements in hubs for the wheels of bicycles, tricycles, and other velocipedes, and in the method of fitting the spokes therein. Dated July 31, 1884.
- „ 10,800. J. J. C. Valpy, of East Dereham, Norfolk, for improvements in table forks. Dated July 31, 1884.
- „ 10,801. H. T. Owens, of Birmingham, for a new improved method of securing knobs to spindles for door locks and latches. Dated July 31, 1884.
- „ 10,806. C. Ibbotson, of Sheffield, for improvements in the construction of the handles of table cutlery and the like articles. Dated July 31, 1884.
- „ 10,809. G. Gibbs, of Hunslet, Leeds, for making wheels for perambulators and similar carriages. Dated July 31, 1884.
- „ 10,820. A. F. Peterson, of Nykjobing, Falster, Denmark, for improvements in cork-screw appliances. Dated July 31, 1884.
- „ 10,821. J. Honeyman, and W. P. Buchan, both of Glasgow, for improvements in and in connection with water and dry closets. Dated July 31, 1884.
- „ 10,825. C. Lee, of Bruce Castle Road, Tottenham, for improvements in velocipedes. Dated July 31, 1884.
- „ 10,830. J. H. Starling, of Harborne, Birmingham, and J. W. Barnes, of Birmingham, for improvements in the manufacture of brass hinges. Dated July 31, 1884.
- „ 10,833. T. C. J. Thomas, of Minorities, London, for improvements in lamps and in manufacturing the same. Dated August 1, 1884.
- „ 10,834. T. C. J. Thomas, of Minorities, London, for improvements in gas lamps. Dated August 1, 1884.
- „ 10,840. C. A. E. T. Palmer, of Aston-juxta-Birmingham, for improvements in bicycles and tricycles. Dated August 1, 1884.
- „ 10,841. F. Harris, and H. Woolhouse, both of Sheffield, for improvements in hand shear. Dated August 1, 1884.
- „ 10,853. J. Brendon, junior, and G. D. Brendon, both of Callington, Cornwall, for improvements in cupboard fasteners. Dated August 1, 1884.
- „ 10,857. G. Paffrath, of Solingen, Germany, for improvements in or connected with cork-screws. Dated Aug. 1, 1884.
- „ 10,861. W. L. Wise, a communication from T. A. De Koster, of Amsterdam, for improvements in apparatus for heating liquids. Dated August 1, 1884.
- No. 10,873. J. Sawbridge, and J. Blower, both of Longton, near Coventry, for improvements in tricycles and similar machines. Dated August 2, 1884.
- „ 10,874. M. Perkins, of Birmingham, for an improved combined aerated water-bottle opener and corkscrew. Dated August 2, 1884.
- „ 10,875. F. L. Fear, and P. Wilson, both of Birmingham, for improvements in door springs. Dated August 2, 1884.
- „ 10,879. C. Woodroffe, of Walton-on-the-Naze, for an improved opener for mineral water bottles and combination corkscrew, champagne and tin opener, and seal. Dated August 2, 1884.
- „ 10,884. J. B. and T. B. Fidler, both of Wolverhampton, for improvements in lever locks and latches. Dated August 2, 1884.
- „ 10,891. F. J. J. Gibbons, of Wolverhampton, for improvements in tricycles. Dated August 2, 1884.
- „ 10,892. W. Hillman, of Coventry, for improvements in or applicable to saddle springs for bicycles and like velocipedes. Dated August 2, 1884.
- „ 10,896. J. Hinks, of Birmingham, for improvements, in lamps for burning light or volatile oils. Dated August 2, 1884.
- „ 10,897. J. F. and G. E. Wright, both of Birmingham, for improvements in supporting the shelves of the ovens of cooking ranges and other ovens. Dated August 2, 1884.
- „ 10,899. J. A. Lamplugh, of Birmingham, for an improvement in saddles for bicycles, tricycles, and such like vehicles. Dated August 2, 1884.
- „ 10,920. J. B. Brooks, of Birmingham, for improvements in velocipede saddles. Dated August 5, 1884.
- „ 10,926. W. P. Thompson, a communication from C. and C. Mickling, both of New York, for improvements in bobbin winding, and tension attachments for sewing machine. Dated August 5, 1884.
- „ 10,928. H. J. Allison, a communication from C. Nicholson, of Washington, Columbia, United States, for combined hand and foot power for driving sewing-machines, and other light machinery. Dated August 5, 1884.
- „ 10,931. A. C. Henderson, a communication from O. Blanchot, of Paris, for improvements in alarm latches. Dated August 5, 1884.
- „ 10,939. A. Brown, of Lanark, for improvements in ornamental boxes for sewing thread. Dated August 5, 1884.
- „ 10,940. R. R. Parker, of Dalmauir, Dumbartonshire, for improvements in the mode and means of securing lock and door handles, or knobs to their spindles. Dated August 5, 1884.
- „ 10,947. H. J. Worssam, of Wenlock Road, City Road Basin, Shoreditch, for an improved apparatus for heating or boiling liquids. Dated August 5, 1884.
- „ 10,954. W. J. Lloyd, and W. Priest, both of Harborne, Staffordshire, for improvements in central-gear tricycles, and other velocipedes. Dated August 5, 1884.
- „ 10,967. G. H. Thynne, of Great George Street, Westminster, for the direct manual-action gripper wheel and axle gearing, and improved speed and up-hill power appliance for tricycles and other wheel conveyances. Dated August 6, 1884.
- „ 10,972. G. F. Newman, of Birmingham, for improvements in the construction of spring hinges for closing swing doors. Dated August 6, 1884.
- „ 10,979. W. J. Lloyd, and W. Priest, both of Harborne, Staffordshire, for an improvement or improvements in tricycles and other velocipedes. Dated August 6, 1884.



- No. 10,985. T. Lawson, of Rochester, for improvements in the construction of velocipedes. Dated August 6, 1884.
- „ 10,997. J. Muench, of Kaiserslautern, Bavaria, for an improved method of driving sewing-machines. Dated August 6, 1884.
- „ 11,013. J. H. Herbert, of Wolverhampton, and B. P. Walker, of Moseley, near Birmingham, for improvements in differential wheel-gearing, applicable to tricycles and other machinery. Dated August 7, 1884.
- „ 11,022. J. Holzgens, of Langerwehe, Rhenish Prussia, Germany, for improvements in holders for needles and other objects. Dated August 7, 1884.
- „ 11,050. R. Schomburg, of Buckingham Street, Strand, London, for improvements in iron bars for fire-places. Dated August 8, 1884.
- „ 11,058. J. Jackson, of Upper Kennington Lane, London, for making a spring clip to easily and firmly fasten stair, window, and curtain rods. Dated August 8, 1884.
- „ 11,067. J. C. Baxter, of Fleet Street, London, for improvements in portable cooking apparatus or field kitchens. Dated August 8, 1884.
- „ 11,070. C. W. Torr, of Birmingham, for improvements in hall lamps and other lamps. Dated August 8, 1884.
- „ 11,090. J. H. Ross, and J. McVey, both of Dublin, for improvements in oil lamps. Dated August 9, 1884.
- „ 11,103. J. Ellis, junior, of Seacombe, Cheshire, for an improved method of propelling tricycles and other velocipedes. Dated August 9, 1884.
- „ 11,110. G. T. Cleaton, of Chancery Lane, London, for improvements in bolts or fasteners, applicable to doors and windows chiefly. Dated August 9, 1884.
- „ 11,131. J. Sawbridge, and J. Blower, both of Birmingham, for improvements in tricycles and similar machines. Dated August 11, 1884.
- „ 11,138. T. S. Truss, of Ackington Road, London, for improvements in hydrostatic automatic valve and piston cocks, for regulating the transmission of fluids through them, applicable for water-closets, urinals, and other purposes. Dated August 11, 1884.
- „ 11,142. D. Mathews, and R. Taylor, both of West Brixton, London, for an improved motor for driving tricycles, bicycles, boats, lathes, sewing-machines, and light machinery generally. Dated August 11, 1884.
- „ 11,157. H. H. Lake, a communication from C. J. Pigeon, of Paris, for improvements in lamps for burning spirits, petroleum, or similar liquids. Dated August 11, 1884.

**Letters Patent have been issued for the following:—**

- No. 1121. A. Lloyd, and W. F. Glydon, both of Birmingham, for improvements in the manufacture of scissors. Dated January 10, 1884.
- „ 1910. J. Whiteley, of Leeds, for improvements in needles for sewing-machines. Dated January 22, 1884.
- „ 4821. F. Beauchamp, of Edmonton, for improvements in bicycles, tricycles, velocipedes, and other such like vehicles or carriages. Dated March 13, 1884.
- „ 5487. H. H. Lake, a communication from B. A. Fiske, of Washington, Columbia, United States, for improvements in pocket knives. Dated March 26, 1884.
- „ 5550. A. Oppenheimer, of Tooley Street, Southwark, London, for a new or improved pocket scissors. Dated March 27, 1884.

- No. 5989. J. Butcher, of Boston, United States, for improvements in alarm bells for bicycles and other wheeled vehicles. Dated April 5, 1884.
- „ 6063. F. Besnard, of Paris, for improvements in lamps. Dated April 7, 1884.
- „ 6073. G. W. Wilkinson, of Saint Mary Abbots Terrace, Kensington, London, for improvements in soldering irons. Dated April 8, 1884.
- „ 6138. H. H. Lake, a communication from J. Jenkins, of Montclair, New Jersey, United States, for improvements in safety pins. Dated April 8, 1884.
- „ 6428. E. Edwards, a communication from H. Gibout, of Paris, for an improved detonating alarm, to be used for giving warning of any attempt to force doors, windows, or other places. Dated April 16, 1884.
- „ 6686. J. W. and R. W. Perkins, both of Bermondsey Street, Southwark, London, for improvements in the manufacture of saucepans, stewpans, or other culinary vessels. Dated April 22, 1884.
- „ 6915. H. H. Lake, a communication from G. P. Farmer, and J. Jenkins, both of Montclair, New Jersey, United States, for improvements in and relating to safety or spring pins. Dated April 28, 1884.
- „ 6958. A. Steenberg, a communication from J. P. Gowers, and P. H. P. Peterson, both of Viborg, Denmark, for improvements in petroleum cooking apparatus. Dated April 29, 1884.
- „ 6963. R. Clayton, of Deepfields, and E. Green, of Coseley, near Bilston, both in Staffordshire, for improvements in the means employed for fixing handles to cast metal culinary and other utensils. Dated April 29, 1884.
- „ 7148. W. Bartholomew, of Albert Embankment, London, for an improved apparatus for the intermittent delivery of water from flushing tanks and for like uses. Dated May 2, 1884.

**SPECIFICATIONS PUBLISHED DURING THE MONTH.**

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|                                                                                                       | 1883. | s. d. |
|-------------------------------------------------------------------------------------------------------|-------|-------|
| No. 5569. P. Adie, velocipedes .. .. .                                                                | 0     | 6     |
| „ 5608. H. Robin, bicycles, &c. .. .. .                                                               | 0     | 4     |
| „ 5613. W. L. Wise, velocipedes .. .. .                                                               | 0     | 8     |
| „ 5647. H. Leeming, sewing machines .. .. .                                                           | 0     | 6     |
| „ 5657. E. Nunan, bicycles, tricycles, &c. .. .. .                                                    | 0     | 6     |
| „ 5686. W. P. Thompson, saddles for bicycles .. .. .                                                  | 0     | 6     |
| „ 5697. G. P. Ganster, lighting and extinguishing or raising and lowering illuminating flames .. .. . | 0     | 6     |
| „ 5711. H. Birch, sewing machines .. .. .                                                             | 0     | 6     |
| „ 5726. M. Heslop, and J. Martin, ironing machine for laundries, &c. .. .. .                          | 0     | 6     |
| „ 5742. L. Lefferts, burning oils, &c., for heating purposes .. .. .                                  | 0     | 2     |
| „ 5750. J. White, & J. Asbury, velocipedes .. .. .                                                    | 0     | 2     |
| „ 5762. J. Butcher, cyclometers .. .. .                                                               | 0     | 6     |
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| „ 5825. J. Shanks, water-closets, &c. .. .. .                                                         | 0     | 4     |
| „ 5836. J. C. Morrison, & R. Smith, oil burners .. .. .                                               | 0     | 6     |
| „ 5860. A. G. Brooks, hairpins .. .. .                                                                | 0     | 6     |
| „ 5870. W. Ross, automatic drain-flushing apparatus .. .. .                                           | 0     | 6     |
| „ 5925. J. S. Stevens, & C. G. Major, spring hinges for doors .. .. .                                 | 0     | 6     |
| „ 5932. E. Sarjeant, bicycle and other wheels .. .. .                                                 | 0     | 2     |
| „ 5940. J. C. Mewburn, water-closets, &c. .. .. .                                                     | 0     | 6     |

| 1884.     |                                                                                     |     |  |
|-----------|-------------------------------------------------------------------------------------|-----|--|
| No. 381.  | J. B. Bell, bicycles, &c. .. ..                                                     | o 4 |  |
| " 800.    | T. B. Salter, & J. Hughes, spring balances ..                                       | o 6 |  |
| " 976.    | E. Lloyd, kitcheners .. ..                                                          | o 4 |  |
| " 2061.   | W. T. Shaw, & W. Sydenham, tricycles, &c. ..                                        | o 6 |  |
| " 2257.   | H. W. Twigg, perambulators .. ..                                                    | o 4 |  |
| " 2614.   | J. Donkin, earth and water closets .. ..                                            | o 6 |  |
| " 3535.   | H. H. Lake, regulating the supply of<br>gas to gas burners .. ..                    | o 4 |  |
| " 3718.   | W. R. Lake, holders for use in carving meat, &c. ..                                 | o 6 |  |
| " 5811.   | W. Devoll, double syphons for flushing<br>closets, drains, &c. .. ..                | o 6 |  |
| " 6726.   | H. J. Allison, hydrocarbon oil burner .. ..                                         | o 6 |  |
| " 6727.   | G. Clutterbuck, water-waste preventers, &c. ..                                      | o 4 |  |
| " 6979.   | W. R. Lake, paring and slicing apples, &c. ..                                       | o 4 |  |
| No. 7368. | E. Capitaine, double-stitch sewing machines ..                                      | o 4 |  |
| " 7507.   | H. Trott, water-waste preventer and after-<br>push combined for water closets .. .. | o 4 |  |
| " 7627.   | W. P. Thompson, velocipedes .. ..                                                   | o 3 |  |
| " 7637.   | A. M. Clark, operating sewing machines, &c.,<br>by foot power .. ..                 | o 6 |  |
| " 7672.   | J. W. Brown, kitcheners .. ..                                                       | o 6 |  |
| " 7997.   | M. Massey, soup pot .. ..                                                           | o 4 |  |
| " 8016.   | L. A. Groth, sewing shoes, &c. .. ..                                                | o 4 |  |
| " 8091.   | F. Cuntz, automatic flushing tank .. ..                                             | o 4 |  |
| " 8327.   | W. Smith, ovens .. ..                                                               | o 4 |  |
| " 8442.   | H. Lewis, driving gear for velocipedes .. ..                                        | o 6 |  |
| " 8545.   | S. Pitt, sewing machines .. ..                                                      | o 6 |  |
| " 8844.   | H. S. Rowley, water closet basins .. ..                                             | o 4 |  |
| " 8970.   | A. W. L. Reddie, oil lamps, &c. .. ..                                               | o 6 |  |
| " 9010.   | J. H. Johnson, sewing machines .. ..                                                | o 6 |  |

## SEVERAL DOZEN OF EXCELLENT SEWING MACHINE TREADLE STANDS

WITH  
**SOLID WALNUT TABLES,**  
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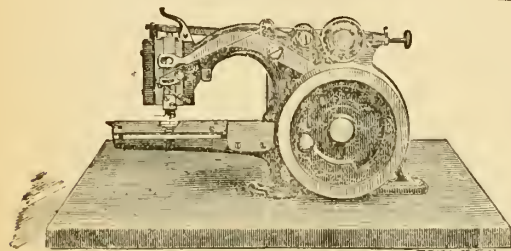
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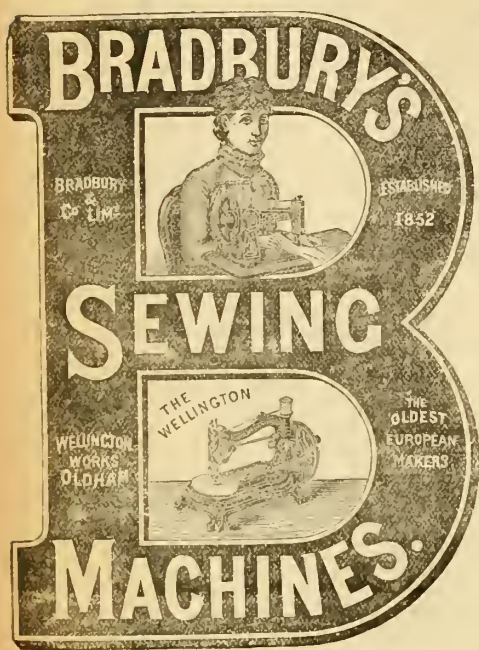
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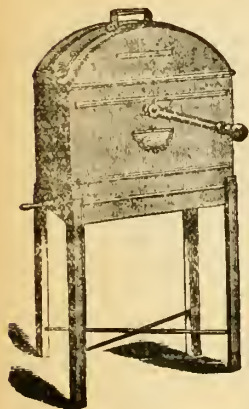
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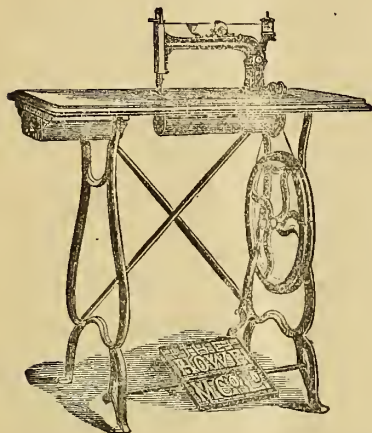
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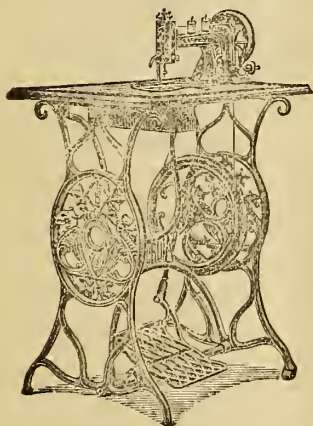
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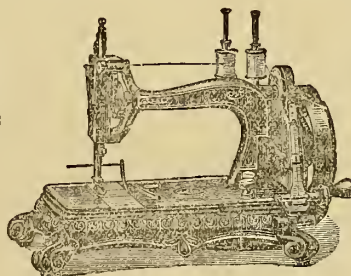
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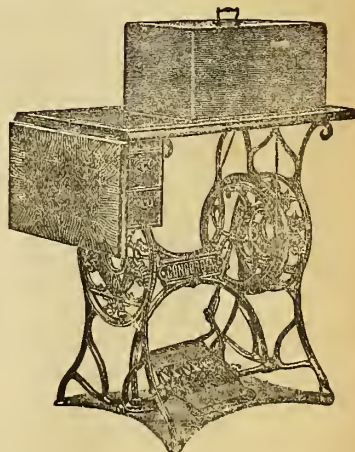
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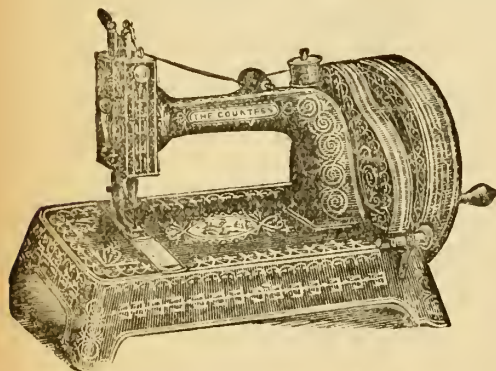
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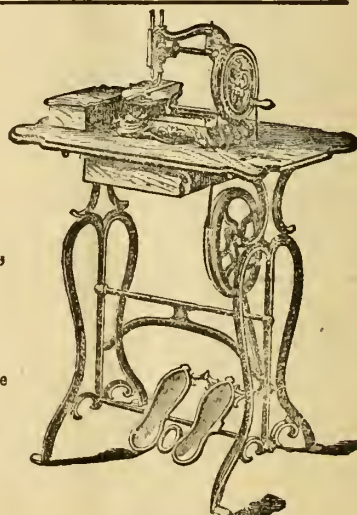
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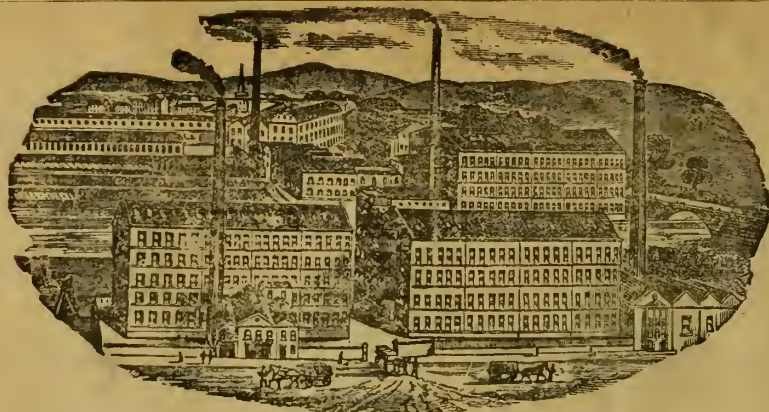
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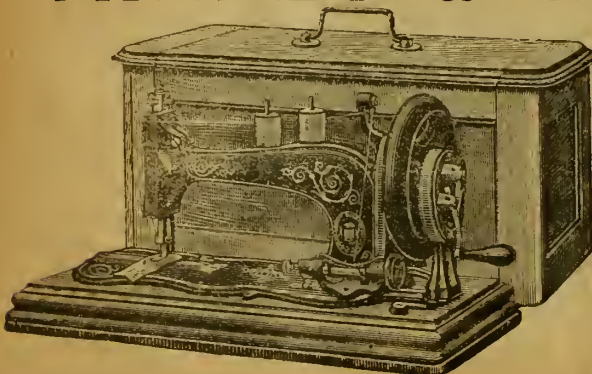
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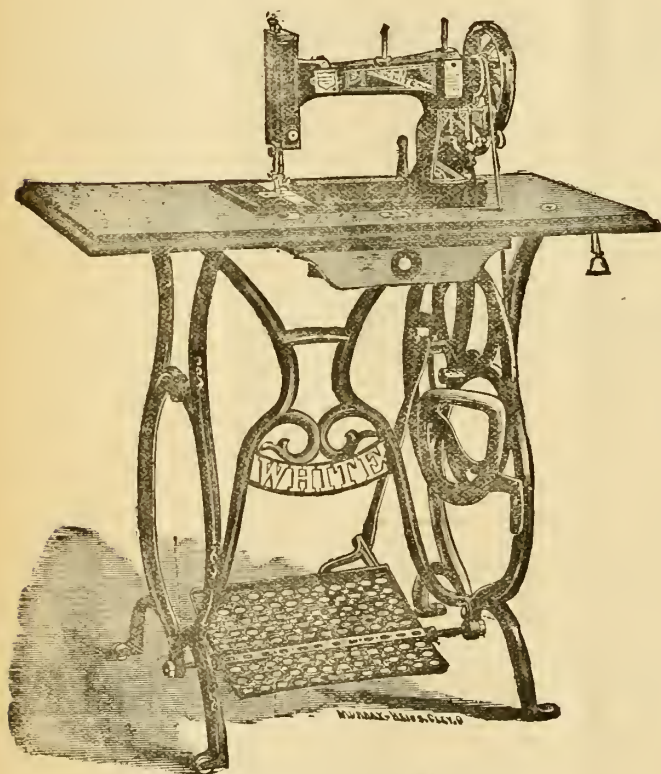
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## SEWING MACHINE GAZETTE.

OCTOBER 1, 1884.

**JUST** before going to press with this issue, the *Journal* has changed hands, and will in future be issued from St. Paul's Buildings, 28, 29 and 30, Paternoster Row, London, E.C., to which address all communications

relating to the Editing or Advertising Departments should be addressed, and all accounts remitted.

**MESSRS. E. W. ALLEN & Co.,** of 4, Ave Maria Lane, will continue to publish to the trade as heretofore.

Immediate arrangements will be made for a considerable enlargement of the *Journal*, and the introduction of several improvements and new features. No effort or expense will be spared to secure this end, and to increase the value of the *Journal* to the various trades specially interested in it. The co-operation of Subscribers is solicited, and it is requested that the Editor may be informed of any items of interest to the sewing machine and kindred trades. A representative will be sent to review and describe any invention or novelty.

Arrangements are also in contemplation for the issue of a Special Number in connection with the January issue, particulars and details of which will be forwarded on application.

This issue of the *Journal* is edited somewhat hurriedly, the matter only having been in our hands about forty-eight hours before going to press. Subscribers are therefore requested *not* to be too critical or to judge of future performances by the present severely handicapped specimen.

The *Queen* newspaper has expressed a favourable, but very just, opinion of the White sewing machine. It is described as a very light one to work by hand or foot, and nearly noiseless. It is worked with an under bobbin, and has an excellent addition in a new tucker that would be a great boon to any machine. It is also fitted with a small apparatus by which the bobbin can be filled while other work is in the machine.

Advices from the South of Europe state that the sewing machine trade, in common with other branches of industry, has been depressed on account of the cholera epidemic.

A correspondent writes that the White sewing machine is meeting with a good sale on the Continent.

There are several travelling agents of the Singer Sewing Machine Company now on the Continent seeking to open out new connections.

The Vertical Feed sewing machine is being imitated by German makers.

English sewing machines, particularly those made by Bradbury and Co., of Oldham, are selling freely in America. It has also been recently stated that European steamers have been bringing into America twenty to thirty tons of machines per week. This is good news!

The Textile Trades' Exhibition at the Agricultural Hall, London, promoted by Mr. Charles Messent, a gentleman well known in the sewing machine trade, closed on the 20th of September.



Mr. George Mackenzie, the president of the Singer Sewing Machine Company of New York, is in England.

The White Sewing Machine Company, of Ohio, United States, will shortly introduce a new machine into the English market.

The Operative Sewing Machinists of London are setting in busy. The summer has been a very dull season with them.

The *United States Sewing Machine Times* says that the Lamb Knitting Machine Company recently received an order from Germany for 100 machines right away. More to follow.

A new factory, the site for which has been purchased for the National Knitting Works of Milwaukee, Wis., U.S.A., is to be erected, at a cost of \$25,000, right away. They know what they are about.

A new factory, 106 by 83 feet, three storeys high, is or soon will be in course of construction for the Brown Brothers Manufacturing Company of Chicago, Ill., at a cost of \$24,000; this will give them plenty of room to turn round in.

A two-storey factory is to go up for Messrs. Edwards and Co., electricians, of 144th Street, near McComb's Dam, New York City; the design is for a store house as well as factory for electrical goods.

The Chicopee Manufacturing Company's cotton mills at Chicopee Falls, Mass., are just being largely extended.

At Columbus, Tenn., the Tennessee Iron Manufacturing Company was recently formed by Robt. M. McKay, W. J. Whitthome, F. J. Ewing, Geo. Childress, and others, with a capital of \$1,000,000 at the time of organization.

A new firm in Cincinnati, under the title of Sebastian, May & Co., are to make a specialty of small foot and power lathes. They will also deal in all manner of machinists' supplies.

Barney Cunneham, a sewing machine canvasser, while under the influence of "bottled lightning," sat down upon the railroad track near Mattoon, Ill., last Saturday morning, and was instantly killed by a passing train.

Under the heading New Corporations, the *United States Sewing Machine Times* says, "Among the names of new companies recently announced from our State capital, we find two pertaining to the sewing machine interests, viz.: The Sewing Machine Supply Company; incorporators, Joseph Powell, Chas. H. Manning, and E. A. Scott; capital, \$30,000; object, the manufacture and sale of sewing machine attachments, findings and supplies.—Advance.

"The Excelsior Supply Company, incorporators, Geo. P. Bent, George T. Robie, Wm. H. Matchett and C. V. Osborn; capital \$20,000; object, the manufacture and sale of sewing machine needles, oils, attachments and supplies.—Advance."

The Boston *Globe* says of the Rotary Shuttle Sewing Machine Company of Foxborough, Mass., "In the Rotary Shuttle Sewing Machine works arrangements have been concluded for the re-opening of the shops upon a larger scale than heretofore, through the enterprise of several large capitalists from Boston and New York. Experts have been at work upon the machines, and have pronounced them unsurpassed for domestic and manufacturing purposes. W. T. Cook is president of the company, and it is expected that the recent urgent demands from agents will soon be filled.

We hope in our next edition to give a technical description, with illustrations, of the new machine which has just been brought out by the Wanzer Sewing Machine Company, Limited. In the meantime we are able to say that it possesses several new features. The principal novelty is a new motion called an "eccentagon," by which the shuttle is operated backward and forward, the needle raised and lowered, and the feed controlled. These are all attained in a positive manner, and provision is made for taking up the slack wear in a most simple manner.

The automatic filler for bobbins is very perfect in its action, and the machine in all respects is an improvement in regard to speed, efficiency, and general usefulness.

This new machine is made in four sizes, E, A, F, and C. The E machine is very light and is designed for domestic use. The others are suitable for manufacturing purposes.

## INTERNATIONAL HEALTH EXHIBITION.

THE sewing machine department has been very busy during the past month, and we believe a great amount of business has been done by the proprietors of stands.

### A NEW INVENTION.

At the end of the Western Quadrant, where historical costumes are to be seen, is a new invention applicable to sewing machines. It is patented by Mr. A. Paget, and is named the "English Fancy Worker and Art Embroiderer." It can be used with any ordinary sewing machine, and enables the operator to produce artistic patterns with gold, silver, silk, beads, &c., without expensive machinery. The silk, wool, or other yarn is arranged on hooks according to the pattern and taste of the worker and is sewn down with the ordinary method of machine stitching. In this respect it will be a beautiful and valuable accession to the sewing machine, as amongst the ornamental thread-work it can do are the following: Art embroidery, in gold and silver thread, embroidery in beads and jet bugles, embroidery on net to produce lace, wool worked on canvas for mats, rugs, &c., ornamental work and fringes.

### THE "WHITE" SEWING MACHINE COMPANY.

This Company have just obtained another gold medal. There is a large notice posted up on their stand in the Western Gallery, which reads as follows: "Another triumph for the White Machine. International Exhibition, Nice. The only gold medal for sewing machines of any make has been awarded to the 'White' Sewing Machine Company." As many persons will be aware, the "White" machines have only been introduced during the past four years, yet its exhibition triumphs are remarkable. At Amsterdam it obtained the only gold medal for machines of American or English manufac-

ture. Its wondrous noiselessness and easy running power obviates all fatigue, while the embroidery work which it performs continues to be the admiration of all visitors to the Health Exhibition. It is all done by the simple use of the embroidery attachment and has certainly marked an era in decorative art. The sale is largely increasing. Messrs. Horne and Crampton received ex the steamship "Boston City," 2,231 cases for the Company's warehouse in Queen Victoria Street, London, shipped direct from the factory at Cleveland, Ohio, U.S., via Boston. This, we believe, is the largest shipment in any one vessel since the introduction of American sewing machines in the English market. The same firm recently held bills of lading for 1,173 cases for the same Company by the steamer "York City." These were shut out by the "Boston City" for want of space, otherwise the shipment would have been 3,407 cases.

#### BEAUTIFUL ARTISTIC WORK.

There has been a skilful performance of floral work on the Wheeler and Wilson machine which caused much attraction. The operator was Mr. William Wood, and it may fairly be said that the samples he produced were worth coming many miles to see. One was a tea rose—the Marshal Ney—in yellow silk thread of various tints. The leaves were very natural and required several tints of green silk to produce the blend of shade. Amongst the samples were lilies of the valley, the rose, shamrock, and thistle, and a bouquet of rich coloured silk thread which everybody praised.

During the same afternoon some excellent work was done by the No. 10 sewing machine on the steam bench. It cuts and stitches, either cloth or leather, at the same operation. It is most useful in scalloping ladies button boot uppers.

#### NOVELTIES.

There is plenty of novelty continually added to the sewing machine department of the Exhibition. At the "Singer" Manufacturing Company's stand there is a diagram of the original sewing machine made in 1790. It is the idea of Saint, one of the first inventors, and was intended for boot making. The same Company now show the royal arms in cheville embroidery, worked by a young lady at the London offices. It is a most clever production and was shown at the Geneva Exhibition, where it attracted the eyes of the King of Italy. He so much admired it as to order a number of a similar production for a set of chairs. There is also a handsome picture shown by this Company representing one of the "Singer" machines as being used by two Italian ladies. We also saw at the same stand a series of illuminated books which were liberally given away to visitors at the Exhibition. The figures on the covers represent Europe, Asia, Africa and America.

Mr. Osterstock gave another illustration of the work done by the button-hole machine lately introduced by the "Singer" Manufacturing Company. It cuts and sews one hundred button-holes per hour. The motion of the needle is beautiful to watch when the machine moves slowly.

#### THE HISTORICAL DRESS DEPARTMENT.

"Fine feathers make fine birds." The Commissioners of the International Health Exhibition seem to be aware of this, for certainly they have been very successful in preparing the Historical Dress Department, near the Aquarium. The costumes represent all styles of dress worn from the time of William the Conqueror to the present period. As the figures of the persons represented are life-size and in glass cases, the whole forms a sort of wax-work exhibition, and draws crowds of visitors.

## THE GREAT TEXTILE TRADES EXHIBITION.

GREAT interest has been manifested throughout the past month at the Agricultural Hall, London, in the exhibition of textile machinery and fabrics. It was the first of its kind ever held in the

Metropolis, and therefore possessed many features of interest not before brought to public notice. We were informed that owing to the epidemic which prevailed in the South of Europe, and to some extent in the North of Africa, it was found necessary considerably to abridge the display it was intended to make of the dressing and preparation of rhea, and some other new fabrics, but notwithstanding this there were some interesting specimens on view. In addition, however, to fabrics, there was a good show of machinery connected with cotton spinning and weaving, all of which caused much attraction. Sewing machines, as well as a large variety of domestic appliances were exhibited, and the catalogue represented a numerous list of eminent firms.

#### WILCOX AND GIBBS.

This eminent Company made a special display of their automatic sewing machines, driven by steam power, and arranged for manufacturing purposes. The latest novelties seem to be the Clipping and Welting Machines for all descriptions of cut hosiery, the nominal speed of which is 3,000 stitches per minute. In addition to these, other special machines were shown for making and wiring straw hats and bonnets. We noticed, for instance, a straw hat machine, which we were informed will make a straw hat in one minute and a quarter, and perfectly shape it also. We also saw special adaptations for the binding of lace curtains and hosiery, for hemming, tucking, and quilting, for tacking together garments for dyers so as to enable them to be washed, dyed, and finished with once sewing.

The clipping machine is certainly a wonderful one for the welting of hose, and the sample we saw done in our presence was a new and very beautiful representation of work. Formerly, large pieces of material were left inside the hose, much to the annoyance of the wearer. We have heard of manufacturers who have not wished to have these pieces of material removed, inasmuch as such a process reduced the weight of the goods when sold wholesale. But as such a rough and unfinished mode of manufacture is a decided objection in the eyes of the retail purchaser, we think that this improvement of Messrs. Wilcox and Gibbs will command attention. The machine, of course, both cuts and sews, the former process being beautifully effected by two blades acting like scissors. We were careful in examining this part of the machine, and found it to be perfection of workmanship. The stitch cannot give way or be made to "grin."

We also noticed several examples of machine tambouring, which is a very useful operation for heading piece goods sent out by manufacturers. Some of the words or flowering were in ballion. Excellent effect in this department is also secured by running a silk or ballion line on printed figures on cloth. Altogether, we found the exhibits of Messrs. Wilcox and Gibbs decidedly new and interesting.

#### THE ROTARY TREADLE.

At Stands 173 and 174 of the Textile Exhibition, we noticed Mr. Barclay Ward's Patent American Rotary Treadle for Sewing Machines, which was exhibited by Messrs. Bradbury and Co., the extensive manufacturers of Oldham, Lancashire. The treadle is precisely like that of a bicycle, the operation of which, the inventor says, is more natural than that of the heel and toe motion, for which all other sewing machine treadles are made. This, we think, must be admitted, because anyone can prove it by moving the hands up and down from the wrists and comparing the exertion with the motion obtained from the full swing of the shoulder socket joint. Or, again, if a person is in water and desires to sustain his head above water he would be sure to use the whole motion of his arms for paddling, and the entire use of his legs in treading the water. Nature teaches this. But as the use of a sewing machine may be one all day long, we think that it will yet be a matter of choice as to which motion should be used. That is to say, some operators, those with weak ankles, for instance, would readily prefer the bicycle tread, whilst heavily built persons would use the ordinary



heel and toe treadle. For heavy work done by machines designed for manufacturing purposes, the Ward Patent Treadle will be found certainly advantageous.

The invention, we must state, can be applied to any machine at the cost of a guinea.

#### CLEGG'S MACHINES.

Several sewing machines manufactured by Mr. Clegg, of 48, Fore Street, City, were exhibited. They are made on the principle of Singer's, Wheeler and Wilson's, Willcox and Gibbs, &c. The same firm showed several washing, wringing, mangling, and kilting machines.

#### THE PENDULUM TREADLE.

Messrs. John Tester & Co. exhibit a novelty in connection with their sewing machines, by the introduction of a new swinging motion obtained by a pendulum treadle. The feet of the operator swing to and fro with an easy motion, while the knees and legs remain perfectly at rest. In this way a great amount of work can be accomplished, it is said, with far less fatigue than with any other treadle. The stands of the machines sold by this firm are also supplied with castors which enable them to be easily removed. Amongst the various machines is the "Gritzner," which is on the "Singer" principle, and is of German manufacture. Some of them are very elegant, with nickel-plated flywheel, rich hand-painting in colours, and inlaid with real mother-of-pearl. An inch measure is always fixed to the table, which is a very useful addition.

The same firm also exhibit a number of washing machines and wringers, bicycles, tricycles, &c.

#### SPOOLING MACHINES.

Messrs. Shepherd & Ayrton, of Manchester, caused considerable attraction at their stand by the exhibition of their Patent Improved Self-acting Spooling Machine. It has eight spindles, with a new arrangement of bobbin trough, working from the back of the spindles instead of the front, to obviate shaking. An arrangement has been secured by which the whole of the spindles are altered at one time instead of separately. There is also an excellent stopping motion, for instantly stopping the machine whenever any of the threads break, so that one girl can attend to two machines when working 200 yards or upwards. The pressure on the thread can also be regulated or taken off altogether when desirable to wind without polish.

The same firm exhibit one of Weild's Self-acting Spooling Machines, for sewing thread, cotton and silk. These machines are made of four, six, eight, ten, twelve, and eighteen heads, or spindles. The production of an eight spindle machine is 26 gross of 200 yard bobbins in ten hours. Some idea of the capacity of this excellent machine may be formed from the fact that the bobbin is simply placed in a bobbin trough, and on leaving the machine it has only to be ticketed for the market.

#### HOSIERY MACHINERY.

At Stand No. 5, Mr. J. A. Claringburn, of Nottingham, exhibited several kinds of machines used in the manufacture of hosiery.

#### MACHINE BELTING.

A new material for belting, consisting of cotton, was shown by Mr. W. Willson. It is only half the price of leather and is said to be the best driving belt in the market, as it is much lighter and is more pliable, whilst it has equal strength.

#### KNITTING MACHINES, &c.

Some excellent knitting machines were to be seen at several stands, embracing the latest improvements. Messrs. Moses Mellor & Sons, of Nottingham, showed one which is rapid in execution and performs excellent work. They also exhibited a machine which weaves stockinet cloth for ladies' jackets and men's vests. It makes three yards in one hour of double width cloth without requiring so much finishing as is necessary for work done at other looms.

#### THE "THOROUGH" WASHER.

This machine enjoys a good reputation, and is made by the Company at Burnley. The proprietors affirm that no other washer will do the same amount of work with the same expenditure of time, labour, and soap. One of the principles of the machine is that no care is required in placing clothes in it, because if the clothes be thrown in rolled up in a bundle, or even twisted roughly together, they are thoroughly separated in a few seconds, and well washed.

## SANITARY INFLUENCE OF SEWING MACHINES.

THE employment of sewing machines, which has extended during the past thirty years into almost all ranks of society, has had a very considerable influence on the sanitary condition of seamstresses. Those using sewing machines at the present time may be divided into two classes. There are, on the one hand, the users of the instrument as a means of saving time and labour in the household. Formerly the girls in many middle-class houses spent a very large portion of their lives in making the household linen. The occupation was sedentary, long-continued, and was incompatible with a due amount of healthy out-door exercise. The sewing machine has effected a great revolution in many families. Work that formerly took hours for completion is now effected in minutes, and the saving of time and labour cannot but be regarded as beneficial from every point of view. But, on the other hand, there are women whose lives are passed as machinists, and in their case the question has to be considered from another aspect: we have to inquire whether it is better for the working women to sit stitching from morning till night with a needle, or to work the machine with the feet. That there are certain evils connected with long continuous labour in an atmosphere usually more or less confined, is undoubted; and the hours of the sewing machinist must, unfortunately, be long, for the labour can hardly be classed as skilled work requiring extra pay—almost any women being able to perform it; the supply, therefore, is always equal to, and often exceeds, the demand, and the work is consequently wretchedly under-paid. But, as compared with the seamstress, the machinist has two advantages—the labour is not so sedentary; the movement of the foot promotes the circulation, which affects in its turn the respiration, and both together act beneficially on the general health—a condition of things much preferable to the dreary monotony of a needlewoman's life. The attitude assumed by the worker is also better. The bending forward of the head, neck, and body, which is common amongst seamstresses, is not essential to the machinist. With a well-arranged seat she can sit upright, in which position the chest is expanded and the abdominal organs are free from undue pressure; and the results, as observed by the German savants at the Berlin Hygienic Exhibition, are favourable. Drs. Ohauser and Blaschks, have reported strongly of the sanitary utility of the sewing machine, as compared with the old style of work. The cold feet, inaction of the skin, and tendency to dyspepsia, are greatly lessened by its use, and, provided the machinist does not wear tight garments, the lungs get a larger amount of action and the predisposition to consumption is greatly lessened. In fact Dr. Ohauser not only goes so far as to state that there is a less than average amount of consumption amongst the numerous machine workers he has attended, but that he even considers the work may neutralize a hereditary tendency to the disease, provided, of course, it be carried on under sanitary conditions—that is to say, that it is not pursued to excess, and is practised in well ventilated apartments, and by persons whose food and clothing are in accord with the requirements of the season.—*The Queen*

## TRADE SAWS.

A NEW law for the protection of trade marks has been promulgated in Servia. Although this is a legislative enactment specially devised for internal employment, it yet affects English interests, Article 9 of the Anglo-Servian Treaty of Commerce, which was arranged in 1880, prescribing the same rights as regards trade marks as is enjoyed by natives of Servia. As Servia is also one of the signatories of the International Convention for the protection of industrial property, trade marks are further secured, the only preliminary needed being the forwarding of three copies of the mark to the Belgrave Court of Commerce within one year from July 19, 1884.

SOME very just criticisms have appeared in correspondence on the present appearance and get up of postage stamps, the various denominations from halfpenny upwards being hardly distinguishable, and often involving a loss to parties using them through the mistakes which arise. Attention is also drawn to the unlively and unsightly colour in which the stamps are printed, which makes the English stamp one of the plainest, if not the ugliest in the world; and the practical suggestion is made that the worth of the stamp should be indicated by a figure printed in bold type on a conspicuous part of the stamp. Now that an enterprising head sways at the Post Office, it is to be expected that effect will be given to these common sense suggestions.

PARIS and Madrid are shortly to be in direct connection. The international Railway Commission nominated for the purpose has finished its task, the track has been settled, the plans draughted and the contracts signed. The middle Pyrenees is to be bored in two places for two lines—one from Oloron to Saratoga through the dale of the Aspe, and Canfranc, Jaca, Ayerba, and Zuera to Saratoga. The other line goes from Puerto de Solon to Lerida.

IN order to inform German manufacturers and exporters as to the best articles to export to China, the German Consul in Canton has forwarded a large number of articles in demand in China to Germany, and an exhibition of them has been held at Flensburg and Altona. It appears that the Chinese set great weight on the kind of the packing and fastening of goods, fearing to be over-reached by the goods having been tampered with, also on the genuineness of trade marks. The next destination of the exhibition is Bremen, whence it will continue its wanderings to several other German towns.

A DEPUTATION of Austrian carriage and engine makers lately sent in a petition to the Minister of Trade, stating that by the end of October all orders now on hand would be completed, and unless new ones were forthcoming thousands of men would be thrown out of work, and beseeching the moving of the Parliament in order to relieve the industries in question. The answer of the Prime Minister was, that he would do his best to induce the Parliament to undertake works extending over several years, and thus ensure a continuous yearly flow of relief in the sense besought. The boon and the answer are very suggestive of the straight to which protective tariffs reduce those lands where they prevail.

GERMAN engine makers supply a large number of the engines used on Italian lines. A blow at this industry is about being struck by the new Italian tariff. A condition of this new tariff is that no railway orders are to be placed abroad save where the tenders are 5 per cent. below native biddings, freight and duties included. This amounts actually to a tax of 12 per cent.; and if an amendment motion be accepted, it will be raised to 15 per cent.

ORNAMENTAL ELECTROTYPES.—The Sheffield Nickel-plating Company (Draper & Neill) have just added to their staple business a feature which appears to be new in this locality, and for which there should be considerable scope, namely, the reproduction of ornamental and antique metal-work in electrotype. The firm have already produced a very large assortment of specimens, for which they are finding a ready sale, the perfection with which the models are reproduced rendering the copy indistinguishable to the eye from the originals. Medallion portraits, heavily-ornamented biscuit-boxes, silver and gold cups, bowls, finger-plates, antique plate, and an infinite variety of *bric-à-brac* form leading objects to the electrotyping of which the firm have applied themselves. The process is somewhat long—the deposition of the copper upon the models in sufficient thickness taking a much longer time than ordinary plating—and considerable skill and labour are required, but relatively the cost of the electrotype objects is extremely small, and places the richest examples of modelling, medallion-work, engraving, and old-fashioned art in the precious metals within the reach of persons of limited means. The extreme fidelity with which the most intricate relief-modelling is reproduced is very striking, and for all practical purposes—if the word "practical" may be used in connection with art—removes the stigma which usually attaches to mechanical reproduction of artistic manual workmanship. Draper & Neill have acquired a large number of beautiful models of objects, both of a purely decorative, and with the useful and ornamental in combination.

A VERY useful invention, and one which is gaining considerable favour, is being pushed by Heighton Brothers, Chapel Street, Edgware Road. This contrivance is styled Lodge & Payne's self-locking coal-plate, and the security offered by its use has undoubtedly contributed to the favourable impression made by those who are already acquainted with its merits. A couple of arms or springs are fastened at one end to a centre-pin in the plate, and when the plate is pressed down into its place the free ends of the springs clip the outer rim (which is secured to the masonry) somewhat after the manner of the barb of a fish-hook, it being impossible to lift the plate without going into the cellar to release the springs.

BAMBER & Co., St Swithin's Lane, are in receipt of plenty of testimony speaking favourably of the merits of the "Sun" knife-cleaner. This handy little contrivance is designed in a manner which leaves little doubt on the mind as to the practical efficiency and the ease of working which the machine possesses, and the results after trial are equally persuasive. The simplicity of the machine is most commendable: two thin steel discs are stamped in concave form to make the hollow for the knife-powder, the peripheries of the discs are serrated deeply, the tooth of one being opposite the space of the other, thus bringing a regular and even pressure on the leather rings, and with an adjusting arrangement giving the pressure desired.

MESSRS. DUNBAR, McMASTER & Co., have moved their Northampton address from 43 to 9, St. Giles Street.



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## SOME DANGERS OF INTERNATIONAL EXHIBITIONS.

THE recognised advantages which are derived from international exhibitions, looked at in the aggregate of their effect, cannot shut out from sight the fact that there are some serious dangers attaching to them which, if unobserved and unchecked, may go far towards nullifying much of their beneficent action, even if they do not render impossible altogether the holding of all exhibitions in future.

The danger we allude to is not an imaginary creation, but one whose existence is so far believed in by those more narrowly affected, as to call forth an answering echo in action in a direction thought best able to

counteract the danger alluded to. This action, in one case, assumes the shape of withholding as much as possible of the details of a certain kind of exhibits from the gaze of the outside public; and in the second case eventuates in the Draconic policy of abstention altogether from all exhibitions whatever.

The danger alluded to is that which the exposure of various secret or privileged processes of manufacture, plan, scheme, or device of construction, patented, lapsed patents, or unprotected, is open to from unprincipled copyists. There has grown up a class of men who, coming in at the eleventh hour, after all the burden and heat of the day, failures and expense have been borne, pick the brains of the painstaking industrial, and in many cases build up a competence for themselves by copying and manufacturing goods the patents of which have run out—in many cases long before the inventor himself has succeeded in covering his aggregate outlays, or is only just beginning to surmount them and gain some of the meed due to lawful toil. The copyists of lapsed patents are mostly "homelings." It is reserved for "outlanders" to pirate non-lapsed patents which are unprotected in foreign lands, and thus fill up the measure of iniquity which oppresses the painstaking inventor and militates against the usefulness and success of exhibitions in general.

This evil has long ago been sought to be remedied by the suggestion to lengthen the duration of patents in cases when the patentee can show that he has not derived a reasonable return for the work of his brains within the original run of his patent. The danger also from foreign copyists, in lands where the patents are unprotected, might be obviated by taking out patents in the principal foreign lands. The only drawback to this course is the expense involved, which, in cases where the patentee has capital sufficient to push his invention thoroughly in the respective lands, often become a dead loss. Cogent reasons, such as those connected with outlay of large unprofitable capitals, or the difficulties attending claiming fresh legislative protection, are in many cases enough to deter inventors from getting extraneous help altogether, and induce them to trust to such resources as their own individual wits suggest, such as those we have alluded to of concealing the particulars and descriptions of new processes in patents, and abstentions from exhibiting altogether.

The decision and course of action resolved in the above two cases, are, there can be no doubt, alike

regrettable. The objects of an exhibition like the Health Exhibition, or more particularly that of the Patents Exhibition to be held next year, must be totally frustrated if any general following in such a line of conduct takes place. The instructions which it is hoped handicraftsmen and others will reap from beholding the untold and manifold processes, arts, crafts, and workmanships of various manufactures, will be altogether nil, from sheer absence of the needful data to ground an opinion upon, and one great *raison d'être* of such exhibitions will be abolished.

No blame can be cast upon those who follow the conservative lines of action above described. They are masters of their own will and fortunes, and have a right to pursue the course they deem most in accordance with their interests.\* Nevertheless, the fact cannot be disguised that the authorities of the forthcoming, and all future exhibitions, have a knotty problem set before them of devising means of safeguarding the intrinsic interests of their exhibitors and at the same time minister most effectually to popular instruction. Many means will be suggested, and Legislative enactments may do something to mitigate the dangers incidental to over-publicity; but it is to be feared that many will abstain in future from exhibiting altogether, or only do so nominally, from the conviction that their interests are better served by their individual exertions and private custom than by large industrial shows.

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### THE BERLIN LAMP TRADE.

THE trade of making gas lamps in Berlin is of very considerable extent. Business in Europe is mostly done by travellers, and out of Europe through the numerous resident export houses. In many cases manufacturers have a direct link with foreign houses.

The staple article of the German lamp industry is the petroleum lamp, which is now made in Berlin in an endless variety of shapes for every conceivable purpose. The useful and consequently cheap articles are in great demand, far exceeding the better and costlier goods.

The lamp burner manufacture in Berlin stands on a very high level. Berlin burners are liked everywhere for their quality and cheapness, and contribute greatly to the sale of Berlin lamps, of which they form the most important part. It is believed that, with the exception of North America, there is no town of a thousand in-dwellers or more throughout the world where Berlin burners are not to be met with.

The largest Berlin lamp factory employs about 800 hands and yearly makes about 800,000 lamp burners,



which enter into consumption either as burner *per se*, or form part of complete lamps.

In late years the demand for hanging lamps has considerably increased. Their low price has induced many persons who formerly used a table lamp only to acquire a hanging lamp.

The electric light hitherto has had no influence on the progress of the lamp trade.

As to the export trade in lamps, one firm states:—Austrian and Russian houses have shrunk their orders here as much as possible, in consequence of the new tariff. The Russian public are compelled to use the inferior native products, and in consequence the manufacture which is the creation of German workmen, and based on German designs, is looking up. In France and Belgium, on the other hand, German efforts have been awarded by an enlarged field and increased favour. In England, also, German products have won a good name, and the circumstances there are still healthy. Scandinavia is open to a regular trade, and good results are to be noted. Spain and Italy remain in their former accessible condition as regards German makers.

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## PROVINCIAL TRADE REPORT.

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### BIRMINGHAM.

THE Correspondent of the *Ironmonger* says: "Not much new business in the shipping department has come to hand this week, but makers for export are better employed than they have been for some time past, and production in most of the staple branches is on a tolerably large scale. Inquiries, moreover, indicate that merchants have good orders on hand, more particularly for Eastern markets. Some large specifications for metal ware of various kinds have lately been submitted for special quotation, and in some cases manufacturers have been promised the orders if they would make some further concession; but, in most instances, the limit of possible concession had been previously reached, and the orders—which comprise galvanised sheets and hollow-ware, and stamped tin goods of the cheapest description, the latter principally for Java—have been withheld. When the quarter is fairly turned, manufacturers entertain little doubt that business will improve in the shipping as it has already done in the home department, only the time for shipments is now very short, and the northern navigation will soon become precarious if not impracticable. Government orders have fallen off since the better news from Khartoum checked the preparations for enlarging the Soudan expedition; but there are still some good government orders under execution here for cartridge-metal, tinware, saddlery, for which a new contract has been recently placed with D. Mason & Sons—nails, and screws, &c. Railway orders, however—for fog-signals, carriage lamps and furniture, and locomotive-tubes—continue disappointing, owing to the unfavourable traffic returns, which necessitate the utmost economy in the spending departments; but railways have themselves to blame, in great measure, for the unsatisfactory traffic, owing to the prohibitory rates they insist on levying for the carriage of merchandise to the outports. The paper read on this subject by Mr. Alfred Hickman at the Social Science Congress this week has attracted much attention, and meets with very general approval.

## WEBSTER'S PATENT ALUMINIUM METALS.

THE progress of time is securing for the invention of Mr. Webster that recognition and confidence which first statements by the Press failed to secure. The possibility of aluminium being produced at a price which would enable it to be introduced as a staple instead of a special metal was sufficient to cause alarm among manufacturers in various industries. Revolutions are seldom favoured by those who have been doing well under the old *régime*; and in this instance so many interests were thought to be threatened by the new alloy that every argument possible to conceive was used against them. The fears entertained, alike with the prognostication of the failure of the metals, have proved, to a great extent, groundless. In the first instance, there were many gratuitous assertions made respecting the invention for which neither the inventor nor the Aluminium Crown Metal Company (Limited)—the sole manufacturers—were responsible; but the solid facts particularised in the catalogue issued by the Company remain as they were first put forth, and these facts are gradually being recognised by manufacturers in Sheffield, Birmingham, and other centres. Not only are makers interesting themselves in the alloys, but some are making a special feature of goods produced from them. In fact, so far has the value of the metal been acknowledged that, as was announced in the "*Ironmonger*" Trade Notes of last week, a company has been formed in Sheffield under the title of the "Aluminium Spoon and Fork Manufacturing Company," for the express purpose of supplying such commodities as spoons, forks, fish knives and forks, and other articles, exclusively of the metal made by the Aluminium Crown Metal Company. This fact, however, may not be so conclusive as that makers of spoons and forks, of electro-plate, of saddlers' ironmongery, of jewellery, and other wares are in many instances taking the metals in hand and displaying a measure of energy in pushing them into the market. The metal may have a more or less serious influence on the trade in German silver of the better class; but, apart from this, it cannot do otherwise than effect considerable good in the way of the sale of medium-class articles. Already the company has succeeded in obtaining more than one important home contract for railway-carriage fittings, such as door-furniture, hinges, brackets, tubes, &c., and for India a satisfactory trade is doing, chiefly in harness-furniture, bits and spurs, and stirrup-irons, and in cooking utensils and general hollow-ware, such as rice-bowls, &c. At home the earlier prejudice of manufacturers is gradually disappearing, and in some branches a fair trade is doing in articles manufactured from one or other of the alloys. One order recently executed by Risdale & Co., Minorities, was for lamps of aluminium metal for two new boats constructed for the Peninsular and Oriental Steam Navigation Company. Another good line recently carried out was a special set of stable-fittings, with brackets for harness, locks, and latches, &c., for an establishment at the West End.

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IT WON'T LAST LONG—A pooling arrangement has been made between the principal English, Belgian, and German rail makers. It is agreed that in quoting prices of rails for export, their works shall not compete against each other, but that the orders obtained shall be distributed among the different works according to a certain fixed arrangement, and those who do not obtain orders shall be compensated for their idleness in some way.

COMMENDABLE AND PROPER.—The Bethlehem (Pa.) Iron Company, which recently made a reduction of twenty per cent. in wages has followed it by a like reduction in the rent of tenement houses to its employees.

## ADVERTISING IN DULL TIMES.

If there is any one time better than another to advertise, we claim the dull season—that is the periods of the year when money is scarce—are the best. Advertising, like planting, should always be done in advance of the *reaping* period.

In "dull times" advertisements are couched over more frequently than in the rush of a busy season.

It is in "dull times" that nine out of every ten business changes are made, or plans matured for the coming season.

In "dull times," too, it will be found that men are more readily impressed with the advantages which any new and lauded scheme may possess, because it is in pleasing contrast with their present unsatisfactory condition.

The manufacturer who advertises largely through the "dull times" when his travellers are laid off, will find he has planted a crop at the right season, and his travellers, when they go forth for orders, will reap a rich harvest.

Nothing helps the traveller so much in getting orders as the fact that his goods have been well advertised in *advance* of his coming.

We say, advertise *all* the time, but if you must drop off, you had best do it in the busy season, for then your customers are buying from you constantly and will know that you are alive and in the business, but if you pull in your advertisements when little or no business is being done, your customers are liable to believe you are dead. At any rate they will believe you are not *as live* as those who advertise their existence and desire to do business, and it is no secret that sewing machine men, as well as other dealers, prefer representing a *live concern* rather than a dead one.—*United States Sewing Machine Times*.

THE paper read by Mr. Alfred Hickman before the Economy and Trade section of the Social Science Congress at Birmingham should do useful service in keeping prominently before the public a subject which is not easy to deal with and very liable to become dormant unless constantly agitated. Readers do not need to be reminded of the injurious effects of the heavy railway rates upon the industries of the inland districts of the country; but it is well that the general public should learn how they are affected by the same causes. Traders have long suffered in silence, and have witnessed the gradual flitting of once prosperous industries to the seaboard until at length a feeling has arisen that something must be done if such places as Birmingham, Wolverhampton, and Sheffield are to remain prosperous manufacturing centres. Mr. Hickman's paper ought to strengthen this most laudable feeling, and should bring support to those who are earnest in their advocacy of improved canalisation as a means of cheapening the transit of raw materials and manufactured articles.

NEW ORLEANS EXHIBITION.—The management of the World's Industrial Exhibition at New Orleans have concluded contracts with various electric light companies for lighting the buildings and grounds of the exhibition. Engines of 1,500-horse power will be required to drive the electric light which will cost \$100,000. Negotiations are progressing for the construction of an improved elevated electric railway in the grounds.

PAYMENT OF DEBTS BY CHEQUES.—In an action, *Glenn v. Sharman*, tried in the City of London Court on Monday, it was decided that the plaintiff was not bound by the action of his clerk in accepting a cheque in payment of the debt which had been sued for. Defendant had sent the cheque for the amount, but had deducted the costs incurred; but the Judge decided that after the issue of the summons the cheque need not be accepted necessarily by the plaintiff.

## PATENTS.

The following list has been compiled expressly for this Journal by Mr. G. F. Redfern, Patent Agent, of 4, South Street, Finsbury, London, and at Paris and Brussels.

### APPLICATIONS FOR PATENTS.

- No. 11,164. W. Morgan, of Birmingham, for improvements in appliances for velocipedes. Dated August 12, 1884.
- " 11,166. P. Blee, of London, for improvements in perambulator carriages. Dated August 12, 1884.
- " 11,171. W. E. Hurrell, and W. Spence, both of London, for improvements in the driving gear of velocipedes. Dated August 12, 1884.
- " 11,175. C. Pietz, of London, for an improved attachment for gas burners. Dated August 12, 1884.
- " 11,181. G. Pickford, of Oldham, Lancashire, for improvements in oil cans. Dated August 12, 1884.
- " 11,195. E. De Pass, a communication from Antoine Victor Marcellin, of Paris, for an improved copying press. Dated August 12, 1884.
- " 11,199. H. H. Lake, a communication from N. Wheeler, of United States, for improvements in mechanism for sewing button holes. Dated August 12, 1884.
- " 11,207. I. Frost, of London, for improvements in four-wheeled velocipedes. Dated August 13, 1884.
- " 11,209. W. Beecroft, of London, for improvements in sewing machines. Dated August 13, 1884.
- " 11,215. J. Heselwood, of Leeds, for improvements in the construction of gas-heated washing machines. Dated August 13, 1884.
- " 11,218. J. B. Adams, of London, for improvements in tricycles and other velocipedes. Dated August 13, 1884.
- " 11,219. E. Page, of Birmingham, for an improved adjustable trivet. Dated August 13, 1884.
- " 11,226. S. W. Johnson, of London, for improvements in or relating to locks. Dated August 13, 1884.
- " 11,237. L. A. Groth, a communication from G. Boretti, of Ardenza, for a new or improved economical warming stove. Dated August 13, 1884.
- " 11,239. J. White, and J. Asbury, of London, for improvements in the construction of velocipedes. Dated August 13, 1884.
- " 11,242. J. Kirkaldy, of West India Dock Road, London, for improvements in water heaters for baths and other purposes. Dated August 13, 1884.
- " 11,252. H. C. Board, of Bristol, for an improvement in the arrangement and circulation of heating apparatus. Dated August 14, 1884.
- " 11,255. W. Jones, of Guide Bridge, near Manchester, for improvements in sewing machines. Dated August 14, 1884.
- " 11,256. J. Hargrave, of Burley, Leeds, for an improved method of and apparatus for holding glass globes or shades for gas lights. Dated August 14, 1884.
- " 11,315. G. H. and S. Jennings, both of Palace Road, Lambeth, and J. Morley, of Bethnal Green Road, both London, for improvements in appliances and arrangements for controlling, regulating, and arresting the supply of water for sanitary purposes and preventing waste. Dated June 28, 1884.
- " 11,316. B. Redwood, of Gracechurch Street, London, for improvements in mineral oil lamps. Dated August 15, 1884.



- No. 11,320. A. M. Clark, a communication from W. Opel, of Frankfort-on-the-Maine, for an improved darning attachment for sewing machines. Dated August 15, 1884.
- " 11,329. F. Iles, of Birmingham, for an improvement in toilet or hair pins. Dated August 16, 1884.
- " 11,335. M. Cahen, of Liverpool, for a new method of heating. Dated August 16, 1884.
- " 11,339. T. Wright, of Liverpool, for improvements in burglar and fire-alarm apparatus. Dated August 16, 1884.
- " 11,386. C. W. Morley, of Lechmere Road, Willesden Green, London, for regulating and heating gas in burners. Dated August 18, 1884.
- " 11,391. T. Lawson, of London, for improvements in the construction of velocipedes. Dated August 18, 1884.
- " 11,420. B. Kelsey, of Birmingham, for improvements in bicycles. Dated August 19, 1884.
- " 11,422. W. Cordeaux, of Rotherham, Yorkshire, for improvements in bicycles and tricycles. Dated August 19, 1884.
- " 11,433. J. Sothcott, of Tabernacle Street, Finsbury, London, for new or improved portable lamp. Dated August 19, 1884.
- " 11,437. J. Shelton, of Fleet Street, London, for improvements in machinery or apparatus for press screwing lamp, furniture and analogous parts or articles of sheet metal. Dated August 19, 1884.
- " 11,441. O. Edlinger, of Strand, London, for multiple scissors. Dated August 19, 1884.
- " 11,451. W. P. Thompson, a communication from G. Scott and T. J. Baldon, both of Canada, for improvements in mangles or wringers. Dated August 20, 1884.
- " 11,464. J. Burford, of London, for improved cooking and heating apparatus. Dated August 20, 1884.
- " 11,474. O. Linley, of London, for improvements in sewing machines. Dated August 20, 1884.
- " 11,494. H. Harrison, of Leeds, for regulating a given supply of water to closets, urinals, &c. Dated August 21, 1884.
- " 11,496. W. Russell, of Manchester, for improvements in or applicable to cooking and kitchen ranges. Dated August 21, 1884.
- " 11,508. H. Smedley, and W. J. Green, both of High Holborn, London, for improvements in velocipedes, and in rendering them convertible for use by a male or female rider, separately or together. Dated August 21, 1884.
- " 11,514. R. Laurence, of Strand, London, for improvements in leg rests, applicable to bicycles. Dated July 30, 1884.
- " 11,515. J. Eaton, of South Street, Finsbury, London, for improvements in the method of fastening sliding sashes and fasteners therefor. Dated August 21, 1884.
- " 11,519. A. Martin, of London, for improved apparatus for use in trimming lamp-wicks. Dated August 21, 1884.
- " 11,530. E. Grube, and A. C. Wells, of Manchester, for improvements in lamps or lamp holders. Dated August 22, 1884.
- " 11,533. J. Parker, of London, for improvements in automatic and other sash fasteners. Dated August 22, 1884.
- " 11,541. J. H. Keyser, of High Holborn, London, for improvements in stoves. Dated August 22, 1884.
- " 11,549. W. G. Kent, and J. W. Sutton, of London, for improvements in gasaliers and apparatus connected therewith. Dated August 22, 1884.
- No. 11,552. M. C. Harney, of London, for improvement in wick-raisers. Dated August 22, 1884.
- " 11,561. A. Caton, of Landport, Portsmouth, for improvements in bicycles and tricycles. Dated August 23, 1884.
- " 11,564. S. H. France, of Flowery Field, near Hyde, for metallic belts for sewing machines. Dated August 23, 1884.
- " 11,574. G. Tennant, of London, for improvements in baths for hydropathic or other purposes, and in apparatus connected therewith. Dated August 23, 1884.
- " 11,575. J. Rettie, of Kirby Street, Hatton Garden, London, for improvements in velocipedes. Dated August 23, 1884.
- " 11,584. E. G. Brewer, a communication from A. Schroeder, of Volmarstein, for improvements in padlocks. Dated August 23, 1884.
- " 11,589. A. Seward, and H. G. Walton, of Liverpool, for improvements in flushing apparatus. Dated August 25, 1884.
- " 11,598. W. Poore, of Staple Inn, London, for improvements in heating apparatus, consisting in part or entirely of pipes or tubes through which hot water is caused to pass. Dated August 25, 1884.
- " 11,604. H. Taylor, of Strand, London, for improvements in utensils for disinfecting or deodorizing purposes. Dated August 25, 1884.
- " 11,640. J. Jameson, of Staple Inn, London, for an improved trap for pipes by which liquids are conveyed from baths, sinks, lavatories, and the like to sewers or to drains communicating with sewers. Dated August 26, 1884.
- " 11,648. W. B. Downey, of Mayville, Hendon, for an improved driving gear for bicycles and velocipedes. Dated August 26, 1884.
- " 11,680. W. R. Maguire, of Dublin, for filling and emptying wash-hand basins, baths, and other vessels. Dated August 27, 1884.
- " 11,682. S. H. Wright, of London, for improvements in and in taps for controlling the flow of gas through gas fittings. Dated August 27, 1884.
- " 11,691. E. C. Burch, of King William Street, London, for raising and otherwise adjusting candles in candlesticks and brackets, and elongating candlesticks and brackets and the standards of lamps. Dated August 27, 1884.
- " 11,695. W. Hardy, junior, of London, for improvements in apparatus for grinding grain and preparing flour for domestic use. Dated August 27, 1884.
- " 11,700. C. D. Abel, a communication from C. De Choubersky, of Paris, for improved means or apparatus for regulating the draught in stoves or fire-places. Dated August 27, 1884.
- " 11,720. F. J. Harrison, of London, for improved mechanism for the propulsion of tricycles and other vehicles and small boats, which mechanism is also applicable to the storage of power for driving sewing machines and other machinery requiring small power. Dated August 28, 1884.
- " 11,762. O. Ber, of South Street, Finsbury, London, for improvements in velocipedes. Dated August 29, 1884.
- " 11,777. C. W. Torr, of Staple Inn, London, for improvements in hall lamps and other lamp. Dated August 8, 1884.
- " 11,779. E. Nunan, of Fleet Street, London, for an improvement in scissors and shears. Dated August 29, 1884.

- No. 11,797. W. B. Woolley, of London, for improvements in or connected with the burners of table and other lamps. Dated August 30, 1884.
- " 11,799. W. T. Cave, of Birmingham, for improvements in driving gear for bicycles. Dated August 30, 1884.
- " 11,812. J. I. Warman, of London, for improvements in chains for the transmission of motive power, applicable chiefly to velocipedes, hoisting machines, traction engines, and other mechanical purposes. Dated August 30, 1884.
- " 11,836. W. Barnwell, of Birmingham, for an improved seat for velocipedes. Dated September 1, 1884.
- " 11,861. E. Barnes, of Birmingham, for improvements in velocipede and other like wheel spoke adjusters. Dated September 2, 1884.
- " 11,875. H. J. Lawson, of London, for improvements in velocipedes. Dated September 2, 1884.
- " 11,885. G. and H. H. Hibberd, of Wheeling, Ohio, for combination tools. Dated September 2, 1884.
- " 11,888. C. F. Clark, and J. L. Dubois, of Fleet Street, London, for improvements in saucepans and other hollow-ware utensils. Dated September 2, 1884.
- " 11,916. A. J. Boulton, a communication from H. Shipman, of United States, for improvements in apparatus for burning hydrocarbons. Dated September 2, 1884.
- " 11,918. G. E. Smart, of Tunbridge Wells, Kent, for improvements in pliers. Dated September 2, 1884.
- " 11,926. G. Cresswell, of Brighton, for perfecting the better sanitary arrangements of water-closets and urinals. Dated September 3, 1884.
- " 11,966. F. W. Lowe, and A. R. Andrews, of London, for improvements in bearings for bicycles or tricycles, also applicable for use with machine shafting or the like. Dated September 3, 1884.
- " 11,968. T. R. Paxton, of South Street, Finsbury, London, for improvements in bolts. Dated September 3, 1884.
- " 11,974. A. Morrall, of Birmingham, for improvements in needles. Dated September 4, 1884.
- " 11,978. E. Roden, of Wolverhampton, for an improved automatic self-sealing van, for removing excreta, &c. Dated September 4, 1884.
- " 11,979. J. Darby, of Birmingham, for improvements in or relating to tricycles or other cycles. Dated September 4, 1884.
- " 11,981. J. Dawson, of Sheffield, for improvements in method of manufacturing trowels, shoe-lifts, and similar articles. Dated September 4, 1884.
- " 11,985. J. J. Royle, of London, for improvements in or applicable to apparatus for washing clothes. Dated September 4, 1884.
- " 11,990. R. C. Jones, and J. W. Cunningham, of Blackfriars Road, London, for improvements in sash fasteners. Dated September 4, 1884.
- " 11,995. J. F. Wright, and G. E. Wright, both of Staple Inn, London, for improvements in burners for gas cooking stoves. Dated September 4, 1884.
- " 11,996. J. Hitch, of Fleet Street, London, for an improved apparatus for controlling supply of water to closets and the like, with means of ensuring an after flush by the same apparatus if desired. Dated September 4, 1884.
- " 12,007. W. Saunders, of Strand, London, for an improved adjustable fastener for stair carpets. Dated September 4, 1884.
- " 12,016. H. Taylor, of Lincoln's Inn Fields, London, for improvements in velocipedes. Dated September 4, 1884.
- No. 12,020. W. Potts, of Edinburgh, for improvements in apparatus for burning fuel for heating purposes. Dated September 5, 1884.
- " 12,024. J. Fletcher, of Ashton-under-Lyne, for improvements in alarm bells for bicycles, tricycles; or any other wheeled vehicles. Dated September 5, 1884.
- " 12,030. J. H. Lynde, of Manchester, for improvements in washing machines. Dated September 5, 1884.
- " 12,040. W. E. Hurrell, and W. Spence, both of Ivy Lane, Hoxton, London, for improvements in driving-gear for velocipedes. Dated September 5, 1884.
- " 12,045. J. Pinchbeck, of Victoria Street, London, for improvements in machines for cleaning and polishing table knives. Dated September 5, 1884.
- " 12,049. E. C. Urry, and G. W. Rayner, of Jackson Road, Holloway, for improvements in lubricating roller skates and mechanism employed therefor. Dated September 5, 1884.
- " 12,053. G. W. Storey, of Lincoln's Inn Fields, London, for an improved tire for the wheels of perambulators. Dated September 5, 1884.
- " 12,055. T. Kirby, of Bromley, Kent, for application of power to tricycles and other machines by means of springs. Dated September 5, 1884.
- " 12,063. J. B. Colbran, of London, for improvements in cooking-ranges. Dated September 5, 1884.
- " 12,070. G. Davis, and T. D. Harries, both of Aberystwith, for propelling tricycles and velocipedes. Dated September 6, 1884.
- " 12,073. S. Barrett, of London, for improvements in washing-machines. Dated September 6, 1884.
- " 12,078. A. O., and A. H. Adams, both of Birmingham, for improved eyes for stair and other rods. Dated September 6, 1884.
- " 12,084. H. J. Pausey, of Clapham Park Road, and C. T. Crowden, of Wakehurst Road, Wandsworth Common, both in London, for a safety bicycle. Dated September 6, 1884.
- " 12,085. H. J. Pausey, of Clapham Park Road, London, for improvements in safety bicycles. Dated September 6, 1884.
- " 12,091. R. C. Lilly, of Birmingham, for improvements in button-hooks. Dated September 6, 1884.
- " 12,098. W. Sargent, of Great College Street, Camden Town, London, for flushing and after-flushing water-closets and sealing same, and to prevent waste of water. Dated September 6, 1884.
- " 12,104. W. Gwinnett, of Fleet Street, London, for improvements in tandem bicycles. Dated September 6, 1884.
- " 12,112. A. E. Brownlow-Jeffery, of London, for a combined vegetable parer and slicer. Dated September 6, 1884.
- " 12,115. C. A. Clark, of Forest Hill, Kent, for improvements in razors. Dated September 8, 1884.
- " 12,125. W. H. Richards, and W. D. Wilkinson, both of Birmingham, for a new method of making brass-headed picture nails. Dated September 8, 1884.
- " 12,146. A. D. Turner, and W. Flatau, both of Fleet-street, London, for improvements in lamps for burning oil or other liquids. Dated September 8, 1884.
- " 12,165. J. T. B. Bennett, Lozells, Birmingham, for improvements in stair rods and eyes, and similar purposes. Dated September 9, 1884.
- " 12,166. W. Whiston, of Birmingham, for improvements in fixing candles in the candle sockets, and attaching the candle sockets, candles and candle springs complete to carriage, bicycle and tricycle lamps. Dated September 9, 1884.



- No. 12,168. J. Carter, of Manchester, for an improved washing machine. Dated September 9, 1884.
- „ 12,173. W. P. Thompson, a communication from W. S. Kelley, of United States, for improvements in saddles applicable for bicycles. Dated September 9, 1884.
- „ 12,183. H. J. Allison, a communication from Wheeler and Wilson Manufacturing Company, of United States, for improvements in sewing machines. Dated September 9, 1884.
- „ 12,192. S. A. and P. G. Hugh, of Old-street, London, for a closed water-waste preventing cistern, the supply being without ball valve or ball cock of any description. Dated September 9, 1884.
- „ 12,194. H. J. Haddan, a communication from A. Lange, of Rudolstadt, for improvements in portable candle holders. Dated September 9, 1884.
- „ 12,195. H. Luttringhaus, of Barmen, Germany, for a new and useful safety needle called a toe protector. Dated September 9, 1884.
- „ 12,198. G. Littlewood, of Staple Inn, London, for an improved lubricator for the axles of tricycle wheels and other like wheels. Dated September 9, 1884.
- „ 12,200. T. J. Constantine, of Fleet-street, London, for improvements connected with portable and other close ranges and stoves for the consumption of smoke therein. Dated September 9, 1884.
- „ 12,209. J. A. Score, of Cockspur-street, London, for improvements in velocipedes. Dated September 9, 1884.
- „ 12,211. T. P. and J. B. Hall, both of Toronto, Canada, for improvements in tricycles. Dated September 9, 1884.
- „ 12,214. L. Gye, of Southampton-buildings, London, for improvements in holders or supports for shades for candles and lamps and for glasses used with the same. Dated September 9, 1884.
- „ 12,222. H. Edwards, of St. Ann's Square, Manchester, for an improved velocipede. Dated September 10, 1884.
- „ 12,240. J. T. Shaw, of Quality-court, London, for improvements in the construction of the bodies of bassinette perambulators. Dated September 10, 1884.
- „ 12,254. T. C. J. Thomas, of Lincoln's-inn-fields, London, for improvements in gas lamps. Dated September 10, 1884.
- „ 12,263. J. Whittingham, of Cockspur-street, London, for improvements in motive power for velocipedes. Dated September 10, 1884.
- „ 12,270. J. Shaw, T. Harrison, W. Shaw, all of Bradford, for an automatic propeller for tram cars, omnibuses, carriages, tricycles, &c. Dated September 11, 1884.
- „ 12,272. J. H. Kenyon, of Manchester, for improvements in apparatus for flushing waterclosets and the like. Dated September 11, 1884.
- „ 12,274. G. O. Burden, of Birmingham, for improvements in differential gearing for velocipedes. Dated Sept. 11, 1884.
- „ 12,277. R. J. Russell, of Blackstock Road, Finsbury Park, London, for improvements in the steering-head of bicycles, &c. Dated September 11, 1884.
- „ 12,290. W. H. Hindle, of Halifax, for improvements in water closets. Dated September 11, 1884.
- „ 12,291. J. E. Walsh, of Halifax, Yorkshire, for a portable hand bolt or fastener for doors or windows. Dated September 11, 1884.
- „ 12,296. C. Ohliger, of the Strand, London, for improvements in attaching scissors to penknives. Dated September 11, 1884.
- „ 12,304. W. Cross, of Chancery Lane, London, for improve-

ments in the means of and apparatus for varying the power or speed of tricycles or similar vehicles. Dated September 11, 1884.

### Patents have been issued for the following:—

- No. 381. J. B. Bell, of Hyson Green, Nottinghamshire, for improvements in bicycles, applicable to tricycles and other velocipedes. Dated January 2, 1884.
- „ 800. T. B. Salter, and J. Hughes, both of West Bromwich, Staffordshire, for improvements in the manufacture of spring balances. Dated January 5, 1884.
- „ 976. E. Lloyd, of Blockhouse Street, Old Kent Road, London, for improvements in kitcheners. Dated January 5, 1884.
- „ 3535. H. H. Lake, a communication from M. L. Gaillard, of Paris, for an improved device for regulating the supply of gas to gas burners. Dated Feb. 18, 1884.
- „ 6726. H. J. Allison, a communication from D. A. Dangler, of Cleveland, Ohio, United States, for a new and improved hydro-carbon oil burner for light and heating purposes. Dated April 23, 1884.
- „ 7272. H. J. Allison, a communication from R. G. Vassar, of New York, United States, for improvements in burglar alarms. Dated May 6, 1884.
- „ 7273. H. J. Allison, a communication from R. G. Vassar, of New York, United States, for an improved door bolt and burglar alarm, to be used in combination therewith. Dated May 6, 1884.
- „ 7300. J. Heys, of Ashton-under-Lyne, Lancashire, for improvements in sanitary receptacles. Dated May 6, 1884.
- „ 7428. G. Downing, a communication from G. Fischer, of Hannörsch, Münden, Germany, for improvements in the application of vulcanized india-rubber, ebonite or vulcanite for the manufacture of lamp reservoirs of one piece, and with or without screw-threads for the reception of the burner. Dated May 8, 1884.
- „ 7431. G. Grisel, of Alameda, California, United States, for improvements in sewing machines for stitching carpets, sail cloth, and other like material. Dated May 8, 1884.
- „ 7507. H. Trott, of High Street, Battersea, London, for improved water-waste preventor and after-flush combined, for water-closets. Dated May 9, 1884.
- „ 7627. W. P. Thompson, a communication from S. Krnka, of Michle, near Prague, for improvements in manumotive velocipedes, applicable for use on various kinds of roads. Dated May 13, 1884.
- „ 7637. A. M. Clark, a communication from H. Field, junior, of New Bedford, Bristol, Massachusetts, United States, for improved apparatus for operating sewing machines, lathes, and other machinery by foot power. Dated May 13, 1884.
- „ 7997. M. Massey, of Kidderminster, for an improved soup-pot. Dated May 21, 1884.
- „ 8091. F. Cuntz, of Karlsbad, Bohemia, for automatic flushing-tank. Dated May 22, 1884.
- „ 8327. W. Smith, of Durham, for improvements in ovens. Dated May 25, 1884.
- „ 8442. H. Lewis, of Raynham Road, Edmonton, for an improved driving gear for velocipedes. Dated May 30, 1884.
- „ 8545. S. Pitt, a communication from W. S. North, of Chicago, Illinois, United States, for improvements in sewing machines. Dated June 3, 1884.

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| " 5918.   | J. A. Lamplugh, saddles for bicycles, tri-cycles, &c. .. .. | 0 6   |

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| " 9511.   | S. Grafton, grater for nutmegs, &c. .. ..                                       | 0 4 |
| " 10,049. | A. Besson, stoves .. ..                                                         | 0 6 |
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| " 10,181. | H. E. Newton, over-stitch sewing machines ..                                    | 0 6 |
| " 10,192. | W. R. Lake, button-hole attachments for sewing machines .. ..                   | 0 6 |

## AMERICAN PATENTS.

Among the recent American Patents are the following:

- No. 304,723. Shuttle-threading device. Jean B. Gilbert, Actonville, County of Bagot, Canada. Filed November 30, 1883. Dated Sept. 9, 1884. [No model.]

*Claim.*—A shuttle-threading device, consisting of shell, provided with head or diaphragm, having upwardly-opening valve, collapsible bag, perforated bottom, concave plate tubes, shelf, provided with mouth, guide-rods, and springs, substantially as described.

- No. 304,747. Device for unwinding thread from spool or bobbins. Thomas Rand Nichols, Lynn, Mass. Filed March 14, 1884. Dated Sept. 9, 1884. [No model.]

*Brief.*—The bracket-arm supporting the tubular unwinding arm is adjustable. The spool or bobbin fits upon a furcated spring, supported by a stud on the base-plate.

- No. 304,868. Trimming knife for sewing machines. Elijah Shaw, Milwaukee, Wis., assignor of one half to Charles T. Bradley and William H. Metcalf, both of same place. Filed Aug. 13, 1883. Dated Sept. 9, 1884. [No model.]

*Claim.*—1. In a sewing machine, the combination, with a needle-

plate, of the reciprocating slide, provided with cutting knife, retaining-plate, and lever, said lever being centrally pivoted to the bed of the machine, and connected at one end with the operative mechanism of said machine, substantially as and for the purpose specified.

2. The combination of the needle-plate, retaining-plate, slide, provided with vertical cutting-knife, lever, plate, lever, spring, eccentric and shaft, all substantially as and for the purpose specified.

- No. 304,878. Loom Shuttle. Johans Wamich, Aschen, Prussia, assignor of one-half to Fritz Killing, Delstern, Germany. Filed August 9, 1883. Dated September 9, 1884. [No model.] Patented in Germany Feb. 11, 1881, No. 15,619.

*Brief.*—A cast-metal shuttle, having transverse dovetailed bridge and abutments, all cast in one piece, substantially as described. *Four claims.*

- No. 304,924. Operating Gear for Sewing Machines. John S. Freise, Brooklyn, N.Y. Filed March 21, 1884. Dated Sept. 9, 1884. [No model.]

*Claim.*—As an improvement in operating gear for sewing machines, the combination, with the needle-bar operating shaft, of the pinion, mounted on said shaft, and the revolving cap-like disc, having an internal rack, gearing with said pinion, said disc being mounted on a stud, projecting from a bracket, which also forms a bearing for the operating shaft, as set forth.

- No. 304,936. Feed-wheel for Button-hole Sewing Machines. Charles T. Jones, Utica, N.Y. Filed May 15, 1884. Dated Sept. 9, 1884. [No model.]

*Claim.*—The wheel-cam having a groove in the surface and steel plates let in flush with the surface of the wheel, with their ends forming the surface of the groove at the place exposed to the principal wear, substantially as set forth.

- No. 304,977. Mechanical Movement. James Tripp, New York, N.Y. Filed June 25, 1884. Dated September 9, 1884. [No model.]

*Brief.*—In a mechanical movement for transmitting circular motion, the combination of a driving and a driven crank-shaft connected by a rod pivoted to their cranks, and an eccentric-rod operated by the driving-shaft, and acting through the medium of a lever upon the driven shaft to cause it to pass its dead centres. *Four claims.*

- No. 304,978. Knitting Machine. Eugene Vermilyea, Waterford, N.Y. Filed November 8, 1883. Dated September 9, 1884. [No model.]

*Brief.*—The jack is formed with a head which projects over the sides of the shank, so as to form shoulders to rest against the needle cylinder outside of and to one side of the needle-groove, thereby relieving the edges of the groove from undue strain from the parts and throwing the same on to the face of the cylinder. The jack can be easily and quickly applied to any needle desired, and shifted from one butt to another of the needles, as occasion may require. *Two claims.*

- No. 304,689. Shoe Sole-sewing Machine. Edward Francis Arnold, North Abington, Mass., assignor, by mesne assignments to himself, and William B. Arnold, same place. Filed May 26, 1884. Dated September 9, 1884. [No model.]

*Claim.*—1. The horn provided with the revoluble straight shaft for the looper pinion, and with the notch or recess for receiving the heel portion of the upper of a shoe while the sole of such shoe at its toes is in the act of being sewed to the upper and the insole, such shaft and recess being arranged in such horn, substantially as set forth.

2. The horn having the looper and its revoluble straight shaft, and the shoe-heel receiving notch or recess, arranged within it (the said horn), as set forth, in combination with the cap, applied to the



upper part of the horn, and arched over and in front of the said looper, all being substantially as represented.

No. 304,707. Shuttle for Sewing Machine. Wilbur F. Dial, Bridgeport, Conn. Filed April 18, 1884. Dated September 9, 1884. [No model.]

*Claim.*—A shuttle for sewing machines, consisting of a ring or band of metal, the interior of which is a perfect circle, and has a flange against which the bobbin rests, and whose periphery is also a perfect circle, except that at one side is a projecting hook, which engages the loop in the needle-thread, and is provided with a recess which is engaged by the carrying-stud.

No. 304,708. Rotary Shuttle Mechanism for Sewing Machine. Wilbur F. Dial, Bridgeport, Conn. Filed Jan. 23, 1884. Dated September 9, 1884. [No model.]

*Claim.*—1. The disc having a pin near its edge, a thread-guard, and bosses, as described, in combination with needle, a shuttle having a recess which loosely engages the pin, and a spring which

holds the shuttle loosely against the disc, so that the shuttle may freely pass through each loop.

2. A shuttle having hook, shoulder, and recess in combination with disc, having pin bosses and thread guard, and spring as described, and for the purpose set forth.

No. 304,709. Rotary Shuttle Mechanism for Sewing Machine. Wilbur F. Dial, Bridgeport, Conn. Filed Jan. 23, 1884. Dated Sept. 9, 1884. [No model.] *Ten claims.*

No. 304,710. Shuttle Oscillating Mechanism for Sewing Machines. Wilbur F. Dial, Bridgeport, Conn. Filed Jan. 23, 1884. Dated September 9, 1884. [No model.] *Four claims.*

No. 304,711. Shuttle Oscillating Mechanism for Sewing Machines. Wilbur F. Dial, Bridgeport, Conn. Filed Jan. 23, 1884. Dated September 9, 1884. [No model.] *Ten claims.*

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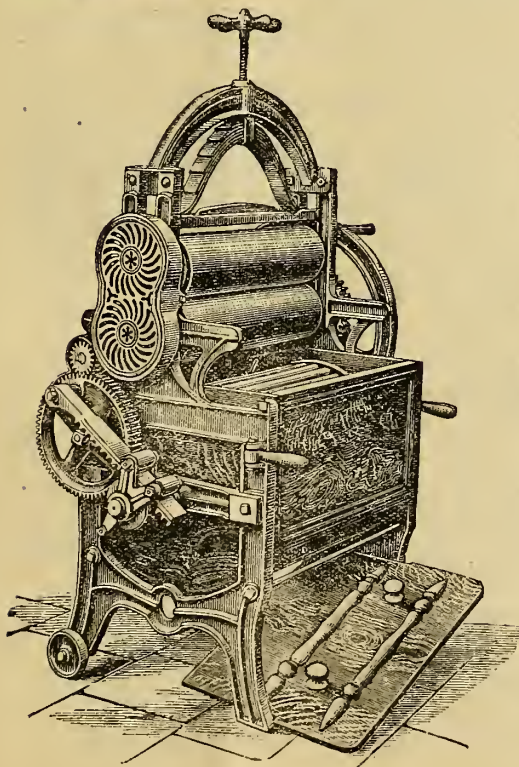
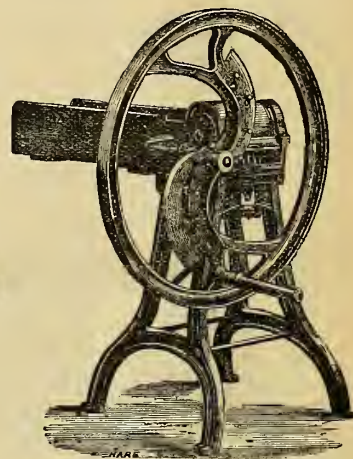
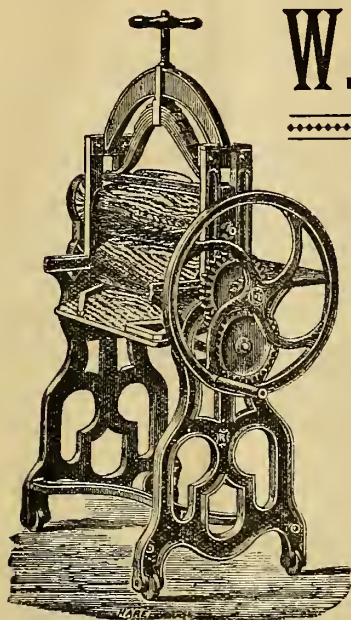
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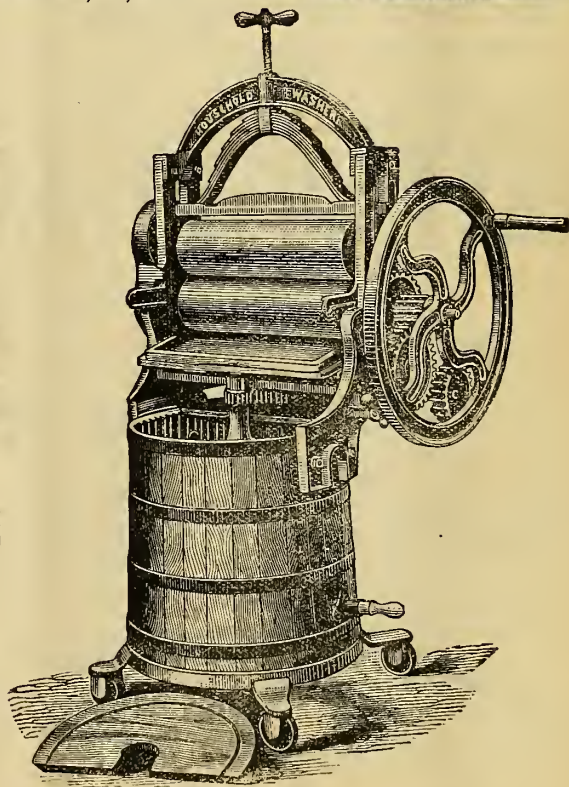
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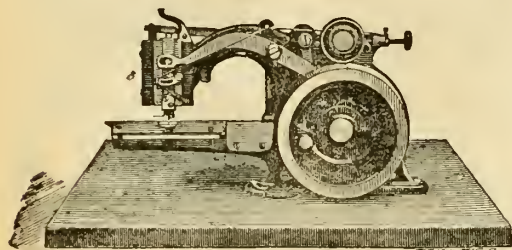


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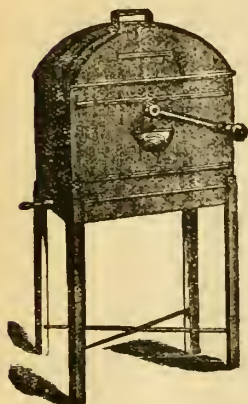
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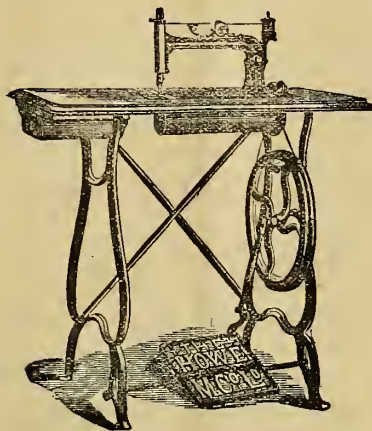
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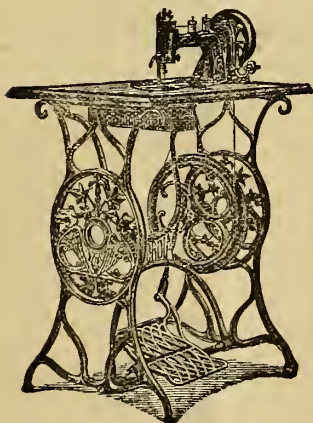
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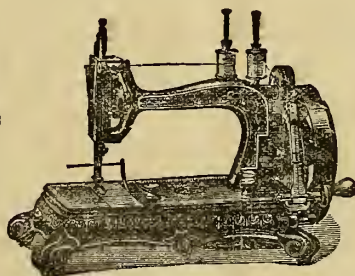
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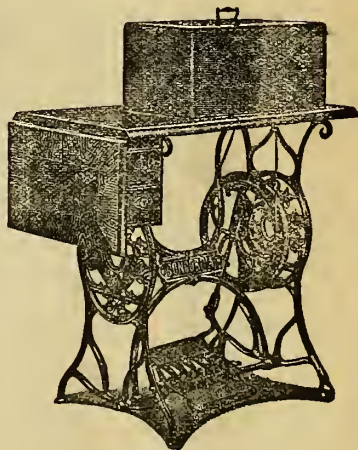
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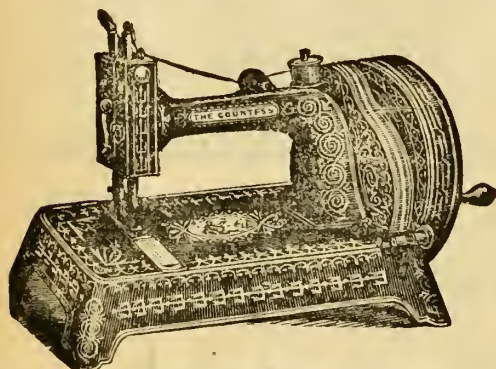
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AND  
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BEG TO CALL THE SPECIAL ATTENTION OF THE TRADE TO THEIR

NEW No. 7 (HIGH ARM) TREADLE MACHINE,

ALSO THEIR

NEW STYLE No. 8 HAND MACHINE,

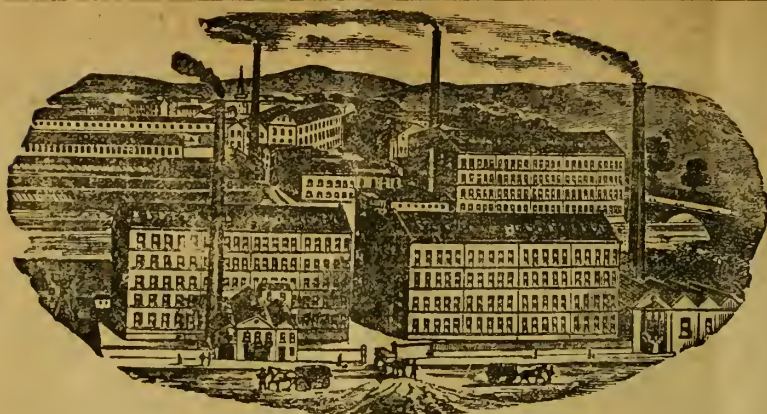
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The Threads manufactured by FINLAYSON, BOUSFIELD & Co., are in practical and exclusive use during the Exhibition in Mr. Tilton's Boot Factory, and by the Goodyear, the Blake, the Keats, the National Wax Thread Machines, and by the New International Dry Thread Machine. This, as a practical endorsement of this Thread, is certainly very suggestive, and it is doubtful whether stronger testimony, from those best qualified to judge, could possibly be given "as to the quality of the article under notice"—*Boston Advertiser*, September 10th, 1881.

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THE JOURNAL OF  
**DOMESTIC APPLIANCES**  
**AND SEWING MACHINE**  
**GAZETTE**  
 WITH WHICH IS INCORPORATED  
**The Hardware Trades' Gazette.**

Vol XI., No. 172.

NOVEMBER 1st, 1884.

Price 4d.

**DUNBAR, McMASTER & Co.,**  
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**The New Wanzer Machine,**  
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**BAER AND COMPANY**

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**G. LOHMANN,**  
 GENERAL AGENCY FOR THE UNITED KINGDOM:—

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Our PHENIX machines are provided with a loose wheel for bobbin winding. The bobbin is very large, and capable of holding more thread than any other family machine. The machines are absolutely noiseless and light running.

1. A SILENCIUSE, Curved Needle Machine with improved feed.

2. PHENIX HAND MACHINE. On iron or wooden base.

family use and manufacturing purposes.

3. PHENIX L.A.C. New high arm machine, medium size, having mechanical movements similar to the No. 10 machine, for





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Highest Award International Health Exhibition, 1884.

See Page 4.



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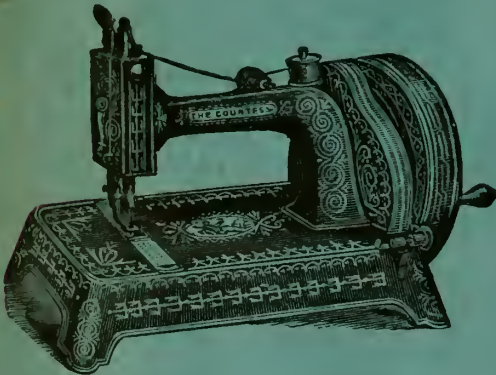
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1. PHOENIX La A. (No. 8). For family use and light manufacturing purposes.
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  3. PHOENIX La C. New high arm machine, medium size, having mechanical movements similar to the No. 10 machine, for family use and manufacturing purposes.
  4. PHOENIX HAND MACHINE. On iron or wooden base.
- La SILENCIEUSE, Curved Needle Machine with improved feed.

Our PHOENIX machines are provided with a loose wheel for bobbin winding. The bobbin is very large, and capable of holding more thread than any other family machine. The machines are absolutely noiseless and light running.

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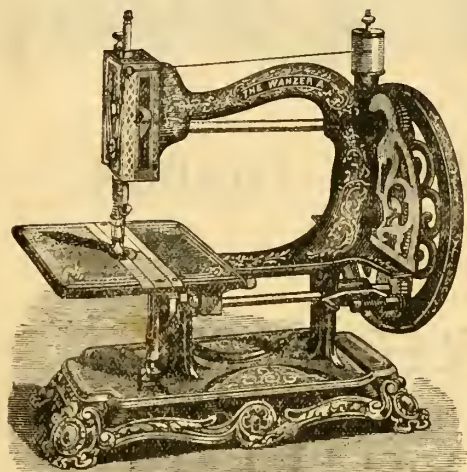
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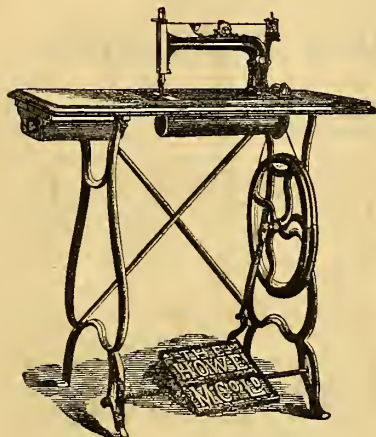
High Arm, Lock Stitch, Self-Setting Needle, Self-Threading Shuttle, Light Running, Durable, Simple, Highly Ornamented, Improved Mechanism throughout.

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Families will find no other Machine  
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Sewing from the finest Muslin to several  
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Dressmakers who once use THE  
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Manufacturers of Boots and Clothing  
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USE THE HOWE MACHINE.

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Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several piles of Heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

The Howe Machine Company are also Manufacturers of  
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The HOWE BICYCLES, price from £14 10s.

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**MACHINES for DRESSMAKERS**

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*Simplicity,  
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Lock-Stitch  
Machines  
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*Is the Quickest Lock-Stitch Machine in the World,  
runs over 2,000 Stitches per Minute.*

NO FRICTION. NO WEAR. NO NOISE. NO GETTING OUT OF ORDER.

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MANUFACTORY :

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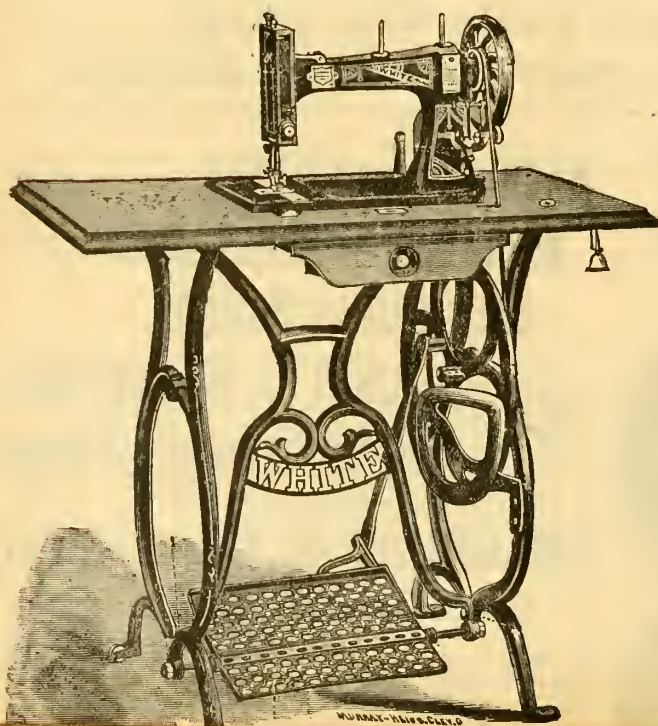
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*No other Machine ever had such a Record  
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*It is particularly requested that all communications relating to the "Journal of Domestic Appliances and Sewing Machine Gazette" may be addressed to the Proprietor, Mr. FRANK ALLNUTT, St. Paul's Buildings, Paternoster Row, London, E.C., and that all Cheques may be made payable to him, and crossed "London and County Bank."*

## The Journal of Domestic Appliances,

NOVEMBER 1st, 1884.

As we are going to press orders for large numbers of copies are coming to hand necessitating the issue of a Second Edition. It is particularly requested that firms requiring extra copies will communicate with us with as little delay as possible.

A Special Edition, ON THIN WHITE PAPER, is printed for foreign circulation.

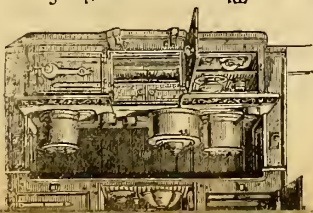
### Travellers' Day Books.

A CASE which was tried at Sheffield lately is of considerable importance to firms employing representatives to travel for them, and also for commercial travellers themselves. The point in dispute was whether a traveller who has quitted his employers' service has a right to retain the book in which he enters his receipts of cash from his firm's customers and other items, or whether it should be returned on the traveller severing his connection with the firm. In this particular case under notice there was the special fact that the book in question had been bought with the traveller's own money. The magistrates held that it was the duty of the traveller to charge for the book, but even if he had not done so the book contained his employers' transactions and should not be retained by an employé. On this ground they ordered the book to be returned, the employers undertaking to give a receipt for it and to produce it when required. The custom is common but by no means universal for travellers to deliver up their cash or day book on their return from each journey in order to be checked by the firm.

If, however, the legal decision in the case under review has been sought by the prosecuting firm in order to retain the customers acquired by the dismissed traveller, it should be pointed out that the attempt may, or may not, have succeeded in its aim according as the defendant himself managed his records. It is for instance the habit of many men on the road—we might perhaps say all the older members of the calling—to carry a duplicate day book in which they record those facts, items, suggestions and observations, which have been found useful in the handling of their customers and the prosecution of their business during the daily and yearly rounds. The transfer of these books, which would be invaluable to firms whose representatives are quitting their service, in order to retain the customers which the retiring man has brought them, is not likely to be effected by the recent decision. Being the free unbidden creation of the travellers themselves, made for their own private behoof and boot, they are absolute and exclusive private property, and no judge could order their giving up, nor any enactment hinder or intermit their creation at any time, or in any number, short of very draconic legislation indeed.

This case therefore does not affect the former usage as regards the possession and relegation of these latter really important books. There are, and will always be cash books and cash books. But even if it were made a stipulation by employers that their traveller should make special records, there would yet always be found means for evading the spirit of the letter. The sole resource which is left an employer against the inimical use of such day books is what has always been at their disposition, namely, to come to such an understanding with their representatives as would remove the cause for their using their information otherwise than for their employer's benefit. Litigation is at all times a questionable help, and especially is it questionable in this matter. Nevertheless, the relations between firms and their representatives being thus sufficiently knotty, any decision come to which aims at authoritatively settling any point of debate, however small, between the two parties, must be hailed with satisfaction by the business world generally as preventing mistakes

(No. 220 in the catalogue), perhaps the most complete and perfect stove ever in the market. It consists of two sheet-iron ovens with moveable grates and plain shelves, and every possible accessory. The cover over the fire can easily be thrown back so as to have an open range, and every want of the cook is provided for. The claims of the stove to public support are very strong, and as the patentees give a guarantee of satisfaction, agents can with every confidence recommend it.



WE give two illustrations of Knight's Patent Knife Cleaner, made by the well-known firm of Messrs. John Crowley & Co., of Sheffield. It is claimed for this article, which is made in four different sizes, that it will clean knives and forks more thoroughly than existing machines, and it also has an automatic arrangement whereby emery powder is supplied as required. It is very frequently the case that really good knife cleaners

(ILLUSTRATED.)

Knight's Patent Knife and Fork Cleaner.

that, like a celebrated American author, we had "with sarkastic."



# THE WHITE SEWING MACHINE Co.

MANUFACTORY :

CLEVELAND, OHIO, United States of America.

PRINCIPAL EUROPEAN OFFICE—

19, QUEEN VICTORIA STREET, LONDON, E.C.

MANUFACTURERS OF THE JUSTLY CELEBRATED

## WHITE SEWING MACHINES,

The Popular Favourites for Noiselessness and Easy Treadle Movement.

UNPARALLELED

SUCCESS

OF THE

“White” Sewing Machine.

Gold Medal Amsterdam Exhibition 1883.

**600 MACHINES**

MANUFACTURED AND SOLD EACH DAY.

**500**

SEWING MACHINE DEALERS IN ENGLAND  
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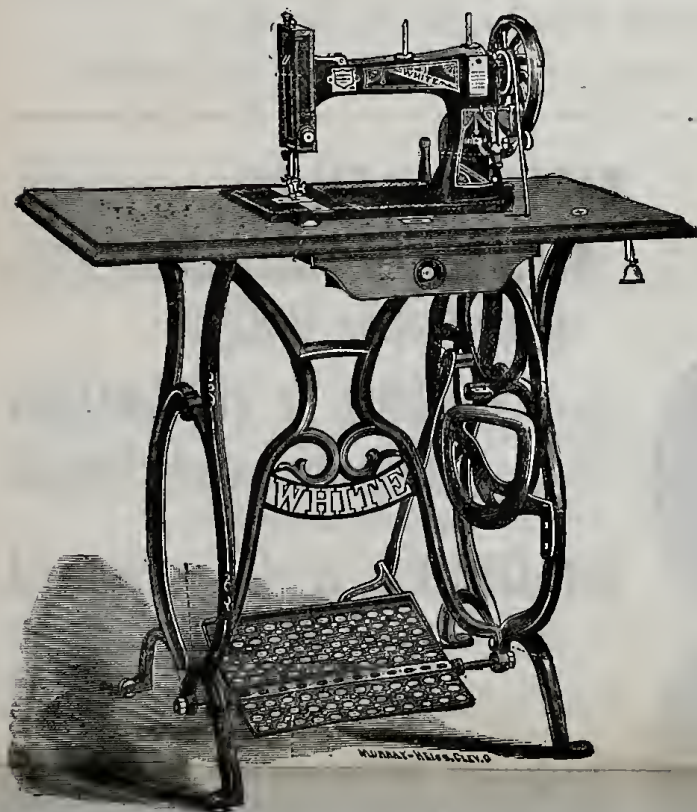
“WHITE.”

SAMPLES OF WORK AND PRICE LISTS  
GRATIS ON APPLICATION.

Try a “WHITE”  
BEFORE PURCHASING.

*No other Machine ever had such a Record  
of Popularity.*

Liberal Terms to responsible Dealers & Agents.



THE IMPROVED WHITE MACHINE.

All Sewing Machine Agents, Dealers, and Operators are invited to call and inspect this—the latest Improved and Best Silent Lock-Stitch Shuttle Sewing Machine—or send for Pamphlets, Circulars, &c., to

## WHITE SEWING MACHINE Co.,

19, Queen Victoria Street, London, E.C.







*It is particularly requested that all communications relating to the "Journal of Domestic Appliances and Sewing Machine Gazette" may be addressed to the Proprietor, Mr. FRANK ALLNUTT, St. Paul's Buildings, Paternoster Row, London, E.C., and that all Cheques may be made payable to him, and crossed "London and County Bank."*

## The Journal of Domestic Appliances,

NOVEMBER 1st, 1884.

As we are going to press orders for large numbers of copies are coming to hand necessitating the issue of a Second Edition. It is particularly requested that firms requiring extra copies will communicate with us with as little delay as possible.

A Special Edition, on THIN WHITE PAPER, is printed for foreign circulation.

### Travellers' Day Books.

**A** CASE which was tried at Sheffield lately is of considerable importance to firms employing representatives to travel for them, and also for commercial travellers themselves. The point in dispute was whether a traveller who has quitted his employers' service has a right to retain the book in which he enters his receipts of cash from his firm's customers and other items, or whether it should be returned on the traveller severing his connection with the firm. In this particular case under notice there was the special fact that the book in question had been bought with the traveller's own money. The magistrates held that it was the duty of the traveller to charge for the book, but even if he had not done so the book contained his employers' transactions and should not be retained by an employé. On this ground they ordered the book to be returned, the employers undertaking to give a receipt for it and to produce it when required. The custom is common but by no means universal for travellers to deliver up their cash or day book on their return from each journey in order to be checked by the cashier of the firm, and on quitting the service of an employer to give up these books as a matter of course. Circumstances, and other causes, however, have made many exceptions to this rule, and there are consequently many travellers who would take the line of the defendant in this case and regard the result of their exertions as indicated by the records in their books as their own private property, written for their own special behoof alone, after, be it understood, the full discharge of the stipulated obligations of their actual engagement. To such the judgment in the recent case will come as a word of warning, and, albeit that it is wiser for heads of firms to shun litigious or non-friendly relations with their representatives as far as possible, the renewed affirmation of the traveller's obligation to keep a record of the firms with whom he has had business relations, and the details of the business done, will be thoroughly welcome at the present juncture.

The use made by travellers of their books on quitting employes is well-known. On the morality of the practice of transferring business from old to new firms, it is hard to dogmatise. If the connection of the traveller is indispensable to the firm, the customers he obtains for the firm represent also the traveller's "lifelode." If that connection has been gathered by means of the firm's outlay, in wages, and travelling and other expenses, it has, on the other hand, earned a share of the mede in the orders thenceflowing. Argumentation, however pursued, always reaches an *impassu*, and is likely to continue so to do, we presume, until the dawn of the millenium or some other state of Arcadian simplicity.

If, however, the legal decision in the case under review has been sought by the prosecuting firm in order to retain the customers acquired by the dismissed traveller, it should be pointed out that the attempt may, or may not, have succeeded in its aim according as the defendant himself managed his records. It is for instance the habit of many men on the road—we might perhaps say all the older members of the calling—to carry a duplicate day book in which they record those facts, items, suggestions and observations, which have been found useful in the handling of their customers and the prosecution of their business during the daily and yearly rounds. The transfer of these books, which would be invaluable to firms whose representatives are quitting their service, in order to retain the customers which the retiring man has brought them, is not likely to be effected by the recent decision. Being the free unbidden creation of the travellers themselves, made for their own private behoof and boot, they are absolute and exclusive private property, and no judge could order their giving up, nor any enactment hinder or intermit their creation at any time, or in any number, short of very draconic legislation indeed.

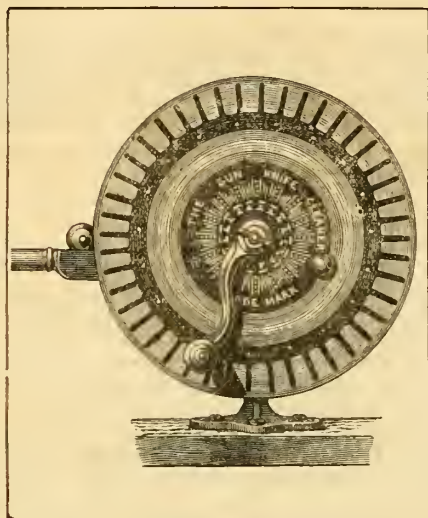
This case therefore does not affect the former usage as regards the possession and relegation of these latter really important books. There are, and will always be cash books and cash books. But even if it were made a stipulation by employers that their traveller should make special records, there would yet always be found means for evading the spirit of the letter. The sole resource which is left an employer against the inimical use of such day books is what has always been at their disposition, namely, to come to such an understanding with their representatives as would remove the cause for their using their information otherwise than for their employer's benefit. Litigation is at all times a questionable help, and especially is it questionable in this matter. Nevertheless, the relations between firms and their representatives being thus sufficiently knotty, any decision come to which aims at authoritatively settling any point of debate, however small, between the two parties, must be hailed with satisfaction by the business world generally, as preventing mistakes and probable grounds for misunderstanding, and pointing the advisability of strictly upright dealings in all business transactions between firms and their representatives.

### The Patent "Sun" Knife Cleaner.

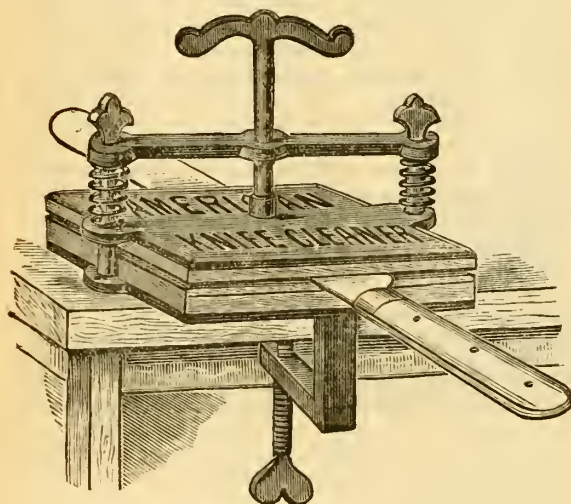
(ILLUSTRATED.)

**A** VERY novel and extremely simple machine in the way of knife cleaners has recently been brought out by the "Sun" Knife Cleaner Company, of St. Swithin's-lane, and has been exhibited by them at the International Health Exhibition, where it has met with unprecedented success. The machine, an illustration of which we give, is supported on a strong cast iron standard, the upper part of which is bored out and faced to carry the spindle, on which are placed two spring discs, dished in the centre, and made of finely tempered steel, having at their outer edge finger-like rays turning slightly outwards at their tips. The discs are so fixed that the ray of the one spring faces the space between the rays of the other, thus bringing an elastic and not a dead pressure on the blade. To the inner sides of these springs leather circles are rivetted to from the cleaning surface for the knife. The polishing powder in small quantities is supplied through a hole in the front spring, which allows the powder to fall upon the inner surface of the leathers, getting thoroughly distributed as the machine revolves. There being very little frictional resistance, only one inch of the surface of the leather pressing elastically at any one moment, the amount of speed attained is very great, and the labour entailed is reduced to a minimum. One great advantage in the machine is that the soiled portion of the blade can receive special attention, thus saving much increasing wear. Then





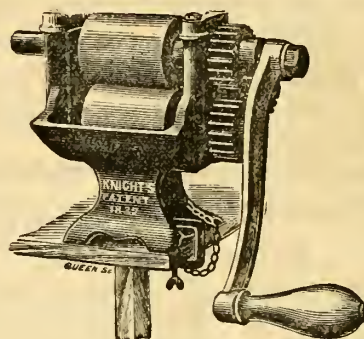
again, the edges of the leathers being levelled, the shoulder as well as the blade is cleaned. We consider it a simple and efficient machine, and likely, when known, to come into general use on account of its reasonable price.



### The American Knife Cleaner.

(ILLUSTRATED.)

WE give an illustration of what is probably the cheapest knife cleaner in the market, and which has been introduced into this country by Mr. John Wilson, of the National Sewing Machine Company, Fetter-lane. Our illustration practically explains the whole of the matter. The machine is of a very simple character, it is fitted with adjustable screws and springs, which can be lightened as required. It is practically impossible to break or damage it, and it will surprise anyone on giving it a trial to see how rapidly it cleans a knife, however dirty or stained. The most extraordinary feature of this machine is its price, which we are afraid to mention, lest our readers might be inclined to suggest



KNIGHT'S PATENT KNIFE CLEANER.

are spoilt in use owing to too much or too little emery powder being used. Number 1, of which we give an illustration, is intended for small families, and will clean the blade, shoulder, and back of a knife promptly and well. The larger illustration shows the method of cleaning the shoulder of a knife. At the Waverley Hotel, Liverpool, and at many other large hotels in the country Knight's Patent has been supplied, and is very highly spoken of. The price runs from 17s. 6d. to 30s., the larger size being only necessary for hotels or other large houses.



KNIGHT'S PATENT KNIFE CLEANER.

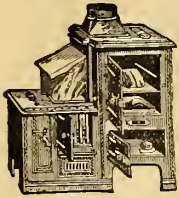
### The Thorncliffe Ranges

(ILLUSTRATED.)

MESSRS. NEWTON, CHAMBERS, & Co., Limited, of Thorncliffe, near Sheffield, are producing some very excellent cooking ranges, both close and open, and of these we give two illustrations. The larger cut represents the Thorncliffe with two roasting ovens



We also give an illustration of the **ECONOMIST**, a very capital little stove, especially adapted for private houses. It is highly finished, and a very cheap article at the price quoted for it. It should be remembered that besides their singular adaptability to every whim or desire of the cook, these stoves burn a merely nominal quantity of fuel, and promptly save their cost in reduced coal bills.



### Rippingille's "Cheerful" Stove.

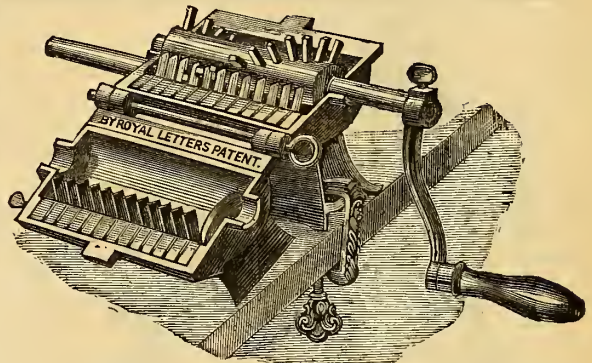
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WE give a small illustration of Rippingille's new pattern Cheerful Stove manufactured by the Albion Lamp Company, of Aston Brook, Birmingham. It is a very convenient and efficient stove, burning little oil, diffusing a strong heat, is entirely free from smell, is perfectly safe to use, and being very highly finished and



RIPPINGILLE'S CHEERFUL STOVE.

very elegant in appearance, forms an ornament rather than otherwise, thus removing a very common objection to stoves of this kind. The Albion Lamp Company's stoves have recently obtained the highest award at the Calcutta Exhibition, and whether used for halls, green-houses, bedrooms, or offices, are found to give every satisfaction.



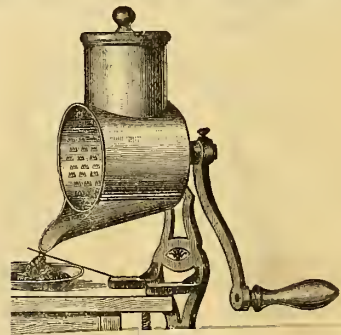
THE BELGRAVIA MINCING MACHINE (OPEN).

unpleasant character. Our illustrations show the machine both open and closed. As the sale of these machines last year was nearly 25,000, it is idle to say that they are exceedingly popular in all markets.

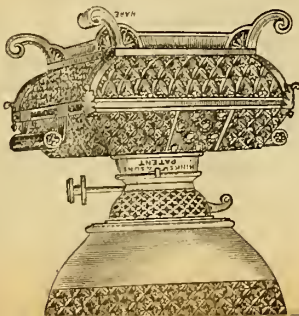
### Salter's Grating Machine.

(ILLUSTRATED.)

MESSRS. G. SALTER & Co., of West Bromwich, are selling large numbers of a very highly finished grating machine of which we give an illustration. The price is very moderate, but the machine is thoroughly up to its work and grates bread, chocolate, almonds, sugar, horse radish, potatoes, fruit of every kind, and in fact anything that ever requires grating. The illustration practically describes the machine thus being No. 2



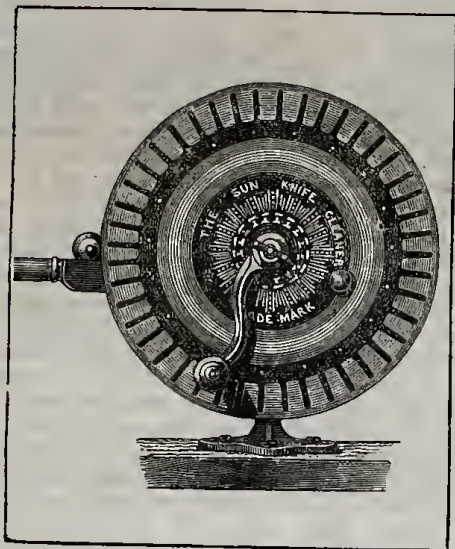
LAMP BY HINKS AND SON, IN CRYSTAL AND MET



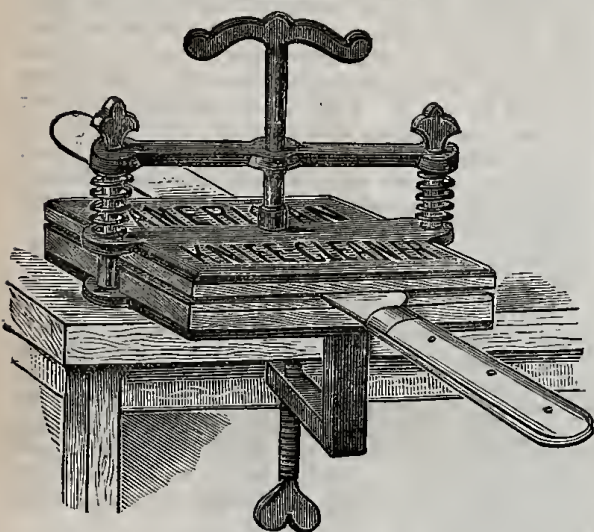
fitted complete with comb, hair brush, clothes and hat brushes, tooth, nail, and shaving brushes, razor stop, paper knife, scent bottle, jar, soap dish, writing case, penholder, pencil, ink stand, match box, looking glass, two razors, scissors, nail file and button hook, while the price is very low indeed. This bag has been introduced







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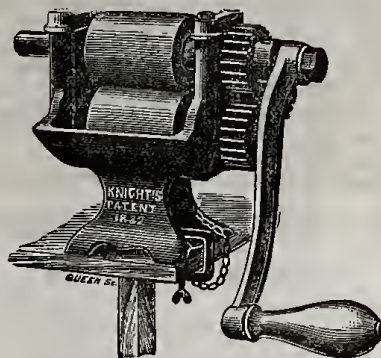
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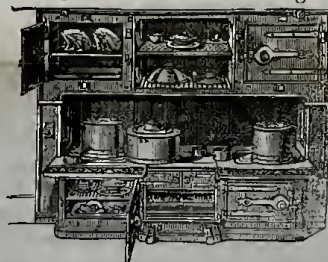


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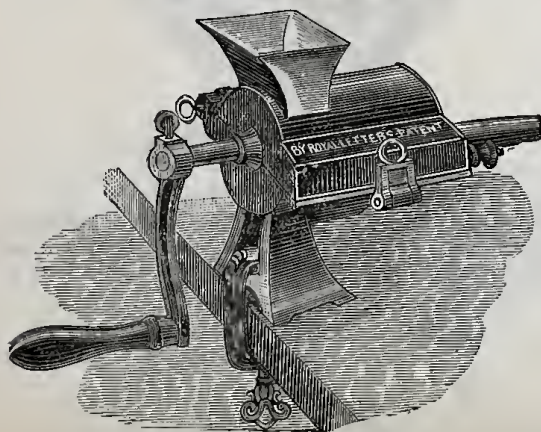
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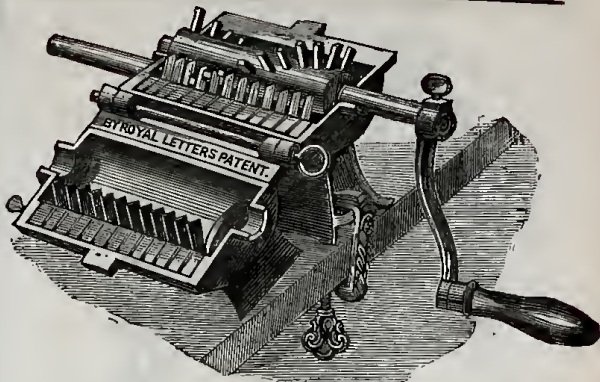


THE BELGRAVIA MINCING MACHINE (CLOSED).

### The Belgravia Mincing Machine.

(ILLUSTRATED.)

AT the Neusalz Iron and Enamelling Works, for which Mr. Henry Klein, of Holborn Viaduct, is the English agent, a very good mincing machine is produced, of which we give illustrations. A great feature of this article is that the inside portions are coated with vitrified porcelain enamel, and are warranted free from lead, arsenic, antimony, or other injurious material. The bright parts are nickel-plated and rust proof, and the machine cuts well and fills easily. The knives can be very easily cleaned and sharpened, and if any trouble is taken in the matter small particles of meat cannot possibly adhere, as is sometimes the case in other machines, leading, of course, to consequences of a very



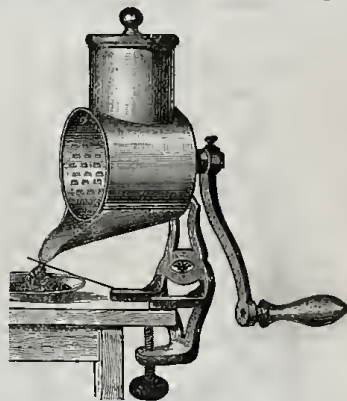
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SALTER'S GRATING MACHINE.

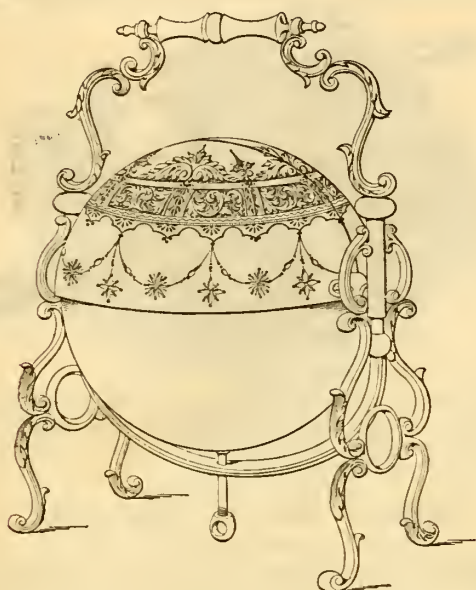
pattern the price of which is 3s. 6d. The No. 1 pattern is slightly cheaper, and does not appear to be quite so convenient for use. Grating under ordinary circumstances is a tedious process, but by means of Messrs. Salter's handy little instrument it is made perfectly easy. This machine only requires to be introduced into a neighbourhood to ensure a large sale.

### The Autopert Biscuit Caddy.

(ILLUSTRATED.)

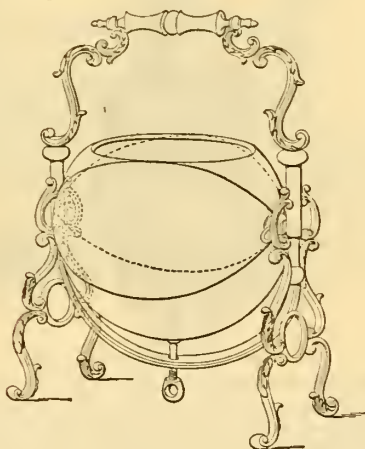
WE give two illustrations of this splendid biscuit caddy produced by the Sheffield Plate Manufacturing Company, Limited, at the Gatefield Works. It is unnecessary to say that it is in every way finished in the highest possible style, and the design is one of the most artistic we have seen. This is no adaptation of old worn out designs, but is a genuine novelty, and as such recommends itself to the attention of lovers of the artistic and beautiful. The word Autopert is a hybrid one derived from the Greek *Artos* and the *Apertom*, and of course means "self opening." This action is obtained by suspending between two fixed uprights a circular body which is attached to them by means of wire loops of an oval form. At the top of the uprights a wire rod or piston is fixed surmounted by a small cylinder which works from the base of the cross bar with the result that the act of lifting from the sideboard or table opens the caddy, the weight of the body falling as half circles giving way and exposing the contents to view. The idea is an exceedingly ingenious one, and the caddy requires to be seen in operation to be thoroughly appreciated. In addition to its self-opening properties it is easily cleaned,





THE AUTOPERT BISCUIT CADDY.

and is handsome in appearance and does great credit to the very high-class firm from which it emanates. As an ornament for the drawing room, table, or sideboard it will stand without a rival, and as a prize for shows, tournaments, sports, &c., it is sure to become exceedingly popular. It is made of the very best nickle silver and highly electro plated.



THE AUTOPERT BISCUIT CADDY (OPEN).

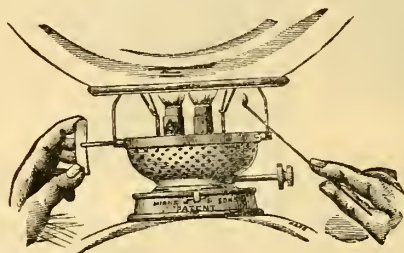
### Fisher's Gladstone Bag.

[ILLUSTRATED.]

WE give an illustration of Fisher's Gladstone Bag, which is claimed, not without good cause, by its producer as a perfect fitted and a perfect empty bag. For Continental travelling it is, of course, most valuable, while as a *multum in parvo* it is without a rival. It is



into almost all markets, and has given perfect satisfaction. Members of Parliament are specially partial to it, and gentlemen going long journeys by train or by coach can hardly be wise to be without one.

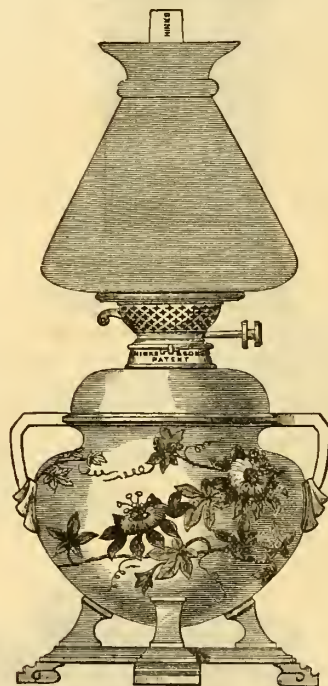


HINKS' NEW DUPLEX BURNER.

### Messrs. Hinks' New Burner.

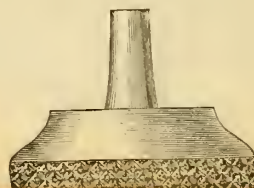
(ILLUSTRATED.)

MESSRS. HINKS and SONS, of Birmingham, have patented an interchangeable lever action duplex burner, which is lighted and trimmed without removal of either globe or chimney. It is patented n

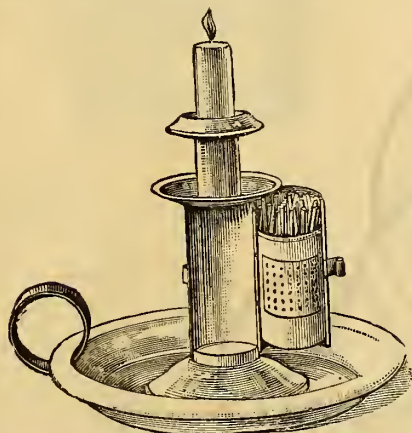


HINKS' LAMP, IN LINTHORPE WARE.

almost every country in Europe, and also in America. It will fit any of Hinks' lamps, and by a slight turn of the lever key the globe and chimney are easily raised to



give free access to the wicks either for trimming or lighting. The movement is perpendicular, and hence there is no danger of overbalancing or breakage, as has been the case in previous arrangements for tilting or hinging. It is very simple, having neither spring, bolt, or hinge, and cannot easily get out of order. It is very easily trimmed, lighted, or extinguished, and in every respect it claims to be a perfect burner. Once used, to go back to the old-fashioned style of removing the globe and glass, would be insufferable. One point, and a special one in connection with it, and a great recommendation is that as more glasses and globes are broken owing to being taken off for the purpose of lighting and trimming than at any other time, considerable saving will be effected by its use. We would recommend every lamp dealer and agent to write for samples at once. We also give illustrations of two high class designs in lamps just brought out, and which have only to be seen to be admired.

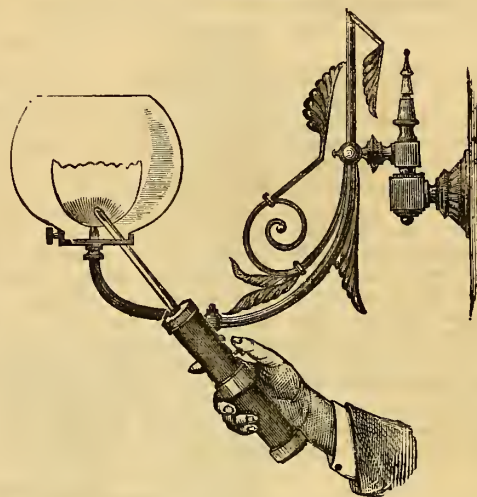


COMBINATION CANDLESTICK MATCH BOX (SHOWING MATCHES).

## The King Combination Candlestick and Match Box.

(ILLUSTRATED.)

WE give two illustrations of this handy little inven-



## PATENT ELECTRIC GAS LIGHTER.

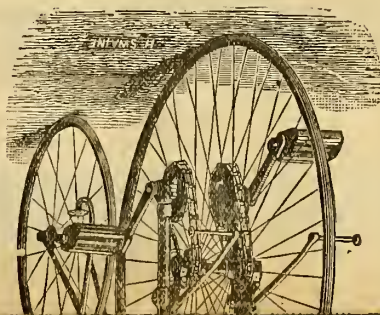
(ILLUSTRATED.)

WE give an illustration of one of the most useful and ingenious inventions of modern times, and is one of which many will surely avail themselves. In the use of matches and tapers for lighting gas, especially in warehouses and stables, there is not only considerable waste, but also a source of great danger. The careless throwing down of a match or taper may possibly cause the destruction of much valuable property, even before an opportunity be given for rendering assistance. Fire is one of those powerful elements of destruction, which if only allowed sufficient time to develop a little energy is not easily subdued, and anything tending to lessen the danger cannot be too highly valued. In the present instance we have before us a safeguard, by the use of which the possibility of the slightest risk is removed, nor does it pretend to the least service beyond the ignition of gas. One novel feature in this invention is, that although electricity is the creative power, no battery is employed, or in fact anything by which it may become in the least degree deranged, so that it is in consequence practically inexhaustible, and, as seen by the illustration the simple pressing of the thumb, and applying the lighter to the jet the gas is at once ignited, the pressure being repeated each time for any number of

can be so constructed as to climb, and when desired runs easily, is a good hill, chine is made extra wide, special feature. The machines of testing this have had excellent opportunities of testing this machine several miles, and ourselves have ridden this its course unmolested. We letting the machine pursue difficulty in jumping off and in case of accident there is no market. The machine is mounted from behind the main axle, forming a step. In case of accident there is no



THE KANGAROO BICYCLE.

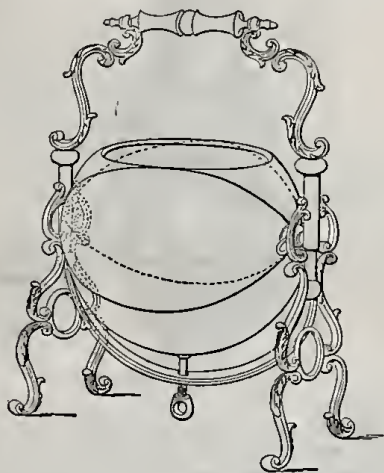






THE AUTOPERT BISCUIT CADDY.

and is handsome in appearance and does great credit to the very high-class firm from which it emanates. As an ornament for the drawing room, table, or sideboard it will stand without a rival, and as a prize for shows, tournaments, sports, &c., it is sure to become exceedingly popular. It is made of the very best nickle silver and highly electro plated.



THE AUTOPERT BISCUIT CADDY (OPEN).

### Fisher's Gladstone Bag.

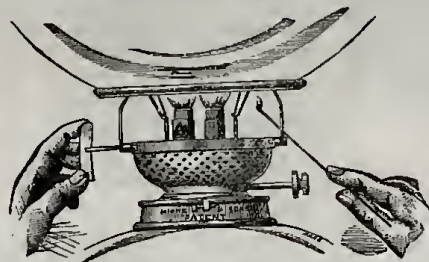
[ILLUSTRATED.]

WE give an illustration of Fisher's Gladstone Bag, which is claimed, not without good cause, by its producer as a perfect fitted and a perfect empty bag. For Continental travelling it is, of course, most valuable, while as a *multum in parvo* it is without a rival. It is



fitted complete with comb, hair brush, clothes and hat brushes, tooth, nail, and shaving brushes, razor strop, paper knife, scent bottle, jar, soap dish, writing case, penholder, pencil, ink stand, match box, looking glass, two razors, scissors, nail file and button hook, while the price is very low indeed. This bag has been introduced

into almost all markets, and has given perfect satisfaction. Members of Parliament are specially partial to it, and gentlemen going long journeys by train or by coach can hardly be wise to be without one.

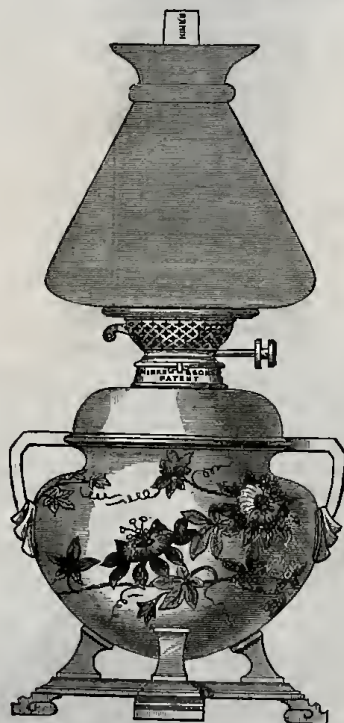


HINKS' NEW DUPLEX BURNER.

### Messrs. Hinks' New Burner.

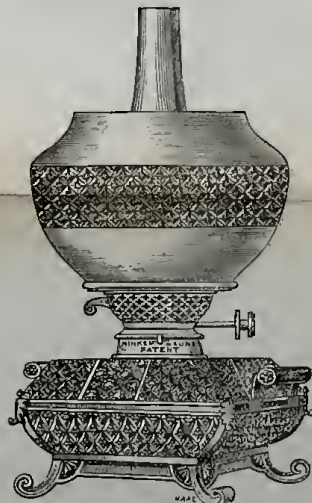
(ILLUSTRATED.)

MESSRS. HINKS and SONS, of Birmingham, have patented an interchangeable lever action duplex burner, which is lighted and trimmed without removal of either globe or chimney. It is patented in



HINKS' LAMP, IN LINTHORPE WARE.

almost every country in Europe, and also in America. It will fit any of Hinks' lamps, and by a slight turn of the lever key the globe and chimney are easily raised to



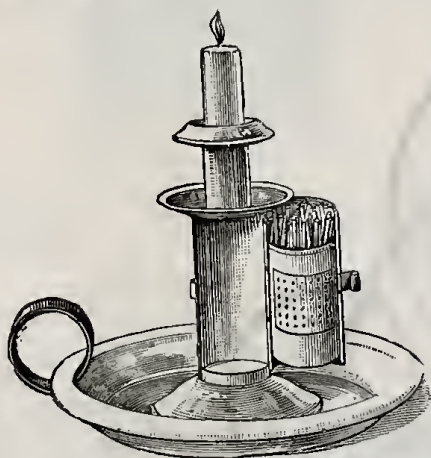
LAMP BY HINKS AND SON, IN CRYSTAL AND METAL.







give free access to the wicks either for trimming or lighting. The movement is perpendicular, and hence there is no danger of overbalancing or breakage, as has been the case in previous arrangements for tilting or hinging. It is very simple, having neither spring, bolt, or hinge, and cannot easily get out of order. It is very easily trimmed, lighted, or extinguished, and in every respect it claims to be a perfect burner. Once used, to go back to the old-fashioned style of removing the globe and glass, would be insufferable. One point, and a special one in connection with it, and a great recommendation is that as more glasses and globes are broken owing to being taken off for the purpose of lighting and trimming than at any other time, considerable saving will be effected by its use. We would recommend every lamp dealer and agent to write for samples at once. We also give illustrations of two high class designs in lamps just brought out, and which have only to be seen to be admired.

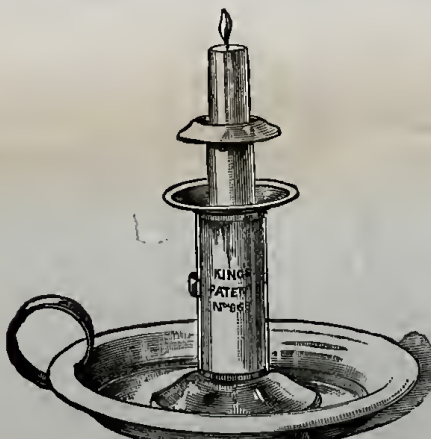


COMBINATION CANDLESTICK MATCH BOX (SHOWING MATCHES).

### The King Combination Candlestick and Match Box.

(ILLUSTRATED.)

WE give two illustrations of this handy little invention, which comprises a match box and candlestick, and is specially suitable for hotels. Wherever introduced, it has become exceedingly popular owing to the fact that the match box, instead of being at hand only when not wanted, must necessarily be easy of access whenever the candle is in use or at hand. One illustration shows the match-box closed, the other showing the box open with the matches appearing. It will be observed that in the former instance the candlestick presents no unusual feature, and that in the latter the matches are placed in a position exceedingly handy for one or two as required. The patentees offer exceptionally good terms to the trade, and are anxious to appoint agents in the country.



COMBINATION CANDLESTICK BOX (CLOSED.)



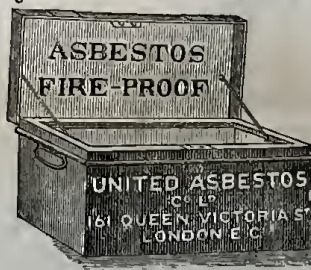
### PATENT ELECTRIC GAS LIGHTER.

(ILLUSTRATED.)

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### Asbestos Deed Box.

WE give an illustration of a very useful novelty produced by the United Asbestos Company, of Queen Victoria Street. It consists of a deed box, manufactured out of the wonderful compound from which they take their name. It is, of course, absolutely safe from fire, possessing a property which, it cannot be too well known, is not present in tin or iron deed boxes of ordinary type.



The box is light and cheap, and answers the purpose of a safe, so far as fire is concerned, without being either heavy or cumbersome.

We hear that Mr. Chadwick, the Managing Director of the "Bradbury" Sewing Machine Co., is seriously ill. This gentleman is well known throughout the sewing machine trade, and his many friends will unite with us in wishing him a speedy recovery.



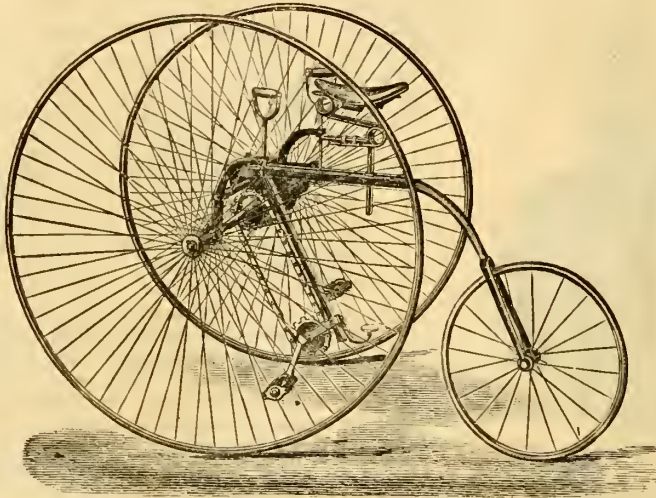
## BICYCLES AND TRICYCLES.

A HINT TO THE TRADE.—(ILLUSTRATED.)

**M**ESSRS. HILLMAN, HERBERT, & COOPER, of the Premier Works, Coventry, and Holborn Viaduct, London, have been to the fore in the matter of bicycles and tricycles from the time that the old bone-shaker was superseded by the type of machines which has since become so popular both on the road and the track. Their bicycles of ordinary type include some of the very best finished, in fact many champions, both professional and amateur, swear by the machines and have always done so. A list of records which have been cut on them would be almost tedious reading. Of tricycles too they have held the lead for some years. Their Premier tricycle has generally earned the reputation of being the safest and perhaps the most comfortable three-track machine ever made, and although this year the firm have superseded it to some extent by the Cruiser machine, of which we give an illustration, we believe that the Premier will for the next twenty years at

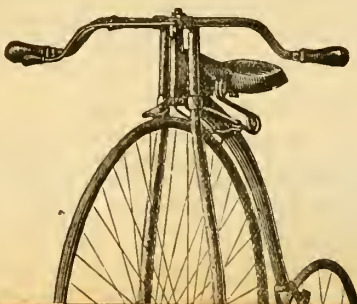
We have ourselves spent many hours during the summer on one of these excellent machines, and have been surprised at the ease with which we could go along the road at a great speed, while the accuracy of the steering is such as to render danger in that respect almost out of the question. It will be seen that the Cruiser combines many of the better qualities of the Humber and the Premier. A loose backbone and front steering machine is very popular among riders who go in for distance and speed, while everyone who has ridden a long journey knows the cramping tendency caused by holding bicycle handles. The Cruiser has side handles similar in appearance to a ratchet and pinion steerer, and this gets over the difficulty. We know many riders who have adopted these machines, and never heard a complaint against them in any single respect.

Perhaps more remarkable still is the Kangaroo Safety Bicycle, an illustration of which we also give. Safety bicycles as a rule are ugly in the extreme, and the amount of speed, at the expenditure of labour approaching that of a convict, which can be got out of them is really so



THE CRUISER TRICYCLE.

least be considered by the public, and certainly by ladies as well as by many others, as the very best machine that can be got for money. The Cruiser is a combination of all the improvements of modern years, and an instance of its wonderful power for road riding was recently given when Mr. W. F. Sutton riding a Cruiser completely upset Mr. Nixon's record on an Imperial Club. On that occasion Mr. Sutton rode over 230 miles on the first day, and reached Edinburgh in two days and nine hours, a feat not only never excelled but never approached.



small as to entitle the rider to the sympathy if not the jeers of every cyclist he meets on the road. The Kangaroo on the other hand has a graceful appearance, is well finished, and wonderful to relate, is actually faster on the road than an ordinary bicycle. We have ridden this machine up many hills which we would have never attempted on an ordinary two-wheeler, and this experience is not ours only but that of every rider who has tried it. Excellently fitted in every respect and finished to the highest degree of perfection these machines are a credit both to the maker and the rider, and during the 1885 season the sale of them is sure to be enormous. A good many sewing machine agents in the country are doing a little in the cycling line, and we would suggest that others would find an agency for a first class firm such as Hillman, Herbert, & Cooper productive of very little inconvenience and a considerable amount of gain. To this subject we propose recurring at an early date.

## The Leicester Safety Tricycle.

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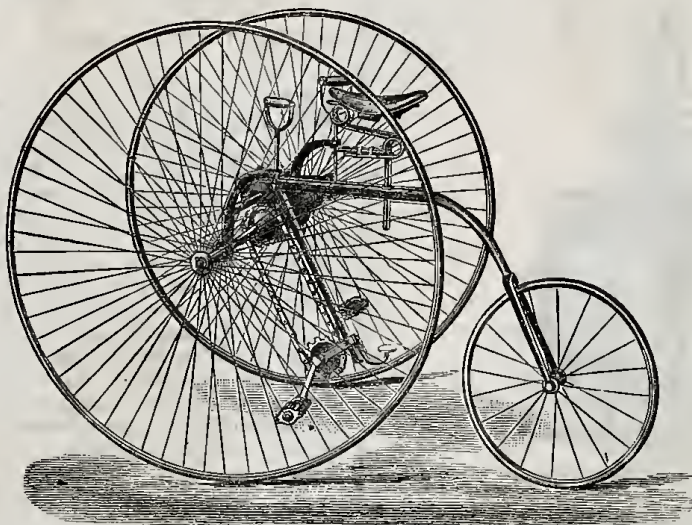
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difficulty in jumping off and letting the machine pursue its course unmolested. We ourselves have ridden this machine several miles, and have had excellent opportunities of testing this special feature. The machine is made extra wide, runs easily, is a good hill climber, and when desired can be so constructed as to

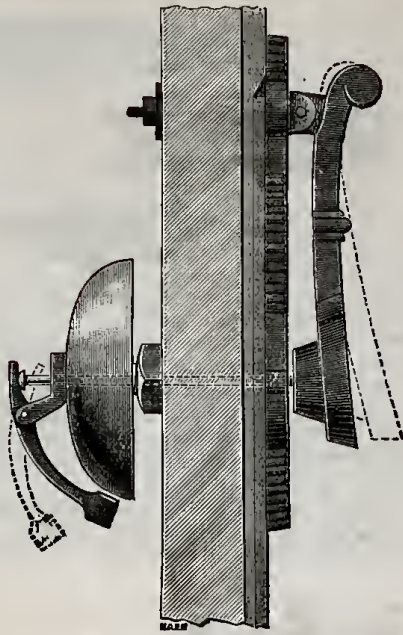






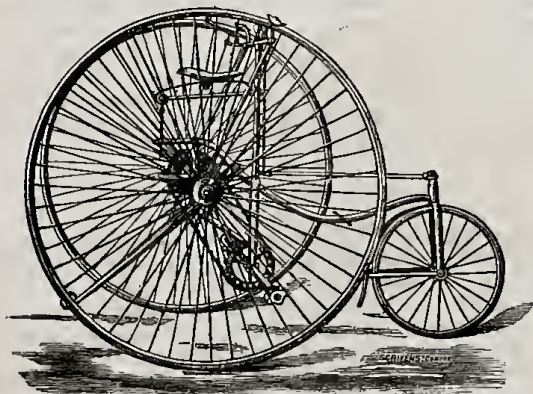


WAUDE'S KNOCKER BELL (FRONT VIEW).



WAUDE'S KNOCKER BELL (SIDE VIEW).

fold and pass through the narrowest of door ways. For nervous people particularly the machine is especially suitable, seeing that with a reasonable amount of care



an accident can hardly happen. In case of being run into by a negligent driver, a rider without much trouble or agility can step out, and however much the machine may be damaged, can escape with a whole skin.

### Waude's Patent Knocker Bell.

(ILLUSTRATED.)

**M**ESSRS. T. & C. CLARK & Co., of the Shakespeare Foundry, Wolverhampton, have attracted considerable attention at the Wolverhampton Industrial Exhibition with Waude's Patent Knocker Bell, two illustrations of which we give. It is a novelty which should be introduced to the notice of householders, and indeed house occupiers, being very suitable for private houses, and also in all warehouses, manufactories, &c., and the like. The idea is to combine knocker and bell, and to obviate the much worn legend of "ring also" so often seen under a knocker. As a matter of economy only Waude's Patent recommends itself to the attention of the public generally, a saving of several shillings being effected by its use. At the same time it is so fastened to the door that by one movement both a knock and a ring is insured, thus assuring attention from the fact that while some people can at once hear the shrill note of a bell others can be best attracted by the lower note of a knocker.

### Ruston's Syphon.

[ILLUSTRATED.]

**W**E give two illustrations of the syphons invented and manufactured by Mr. T. H. Ruston, of Horncastle. The more graphic illustration of the two

is taken from an instantaneous photo, and shows how the Syphon is used. The majority of aerated water bottles are now made with a valve or plug. The Syphon has a tube, the circumference of which is about the same as the inside of the neck of the bottle, with which the plug can be knocked down. It is then placed into its



RUSTON'S SYPHON.

right position, and instead of the contents of the bottle squirting up the opener's sleeve, or making a mess all over the room, it is conducted direct to the glass, the angle of the syphon making this an easy and convenient process. We have had one of these articles in use for the last week, and although this description may not be very graphic, no person who invests eighteen pence in a sample will fail to come to the same conclusion that we have done, namely, that it is foolish to attempt to open a bottle without one.



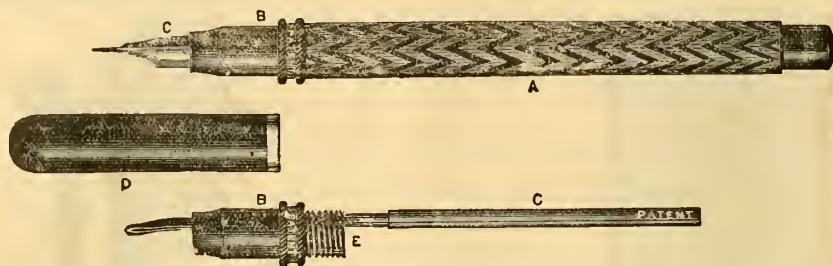
RUSTON'S SYPHON (IN USE)

### The Phoenix Wringer and Mangle.

(ILLUSTRATED.)

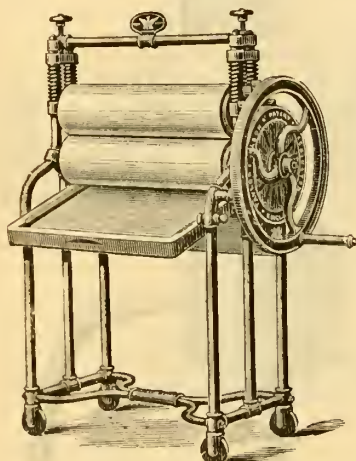
**B**y the courtesy of Messrs. Taylor & Wilson, of Clayton-le-Moors, we are able to give an illustration of their Patent Phoenix Wringing Machine which is protected by three separate patents. The driving gear is of a new kind, and has many features to recommend





THE SIMPLEX FOUNTAIN PEN.

it, not the least of which is that it will work faster than the old-fashioned types with the expenditure of less labour. The pressure is obtained by four separate spiral springs, which are very strong and do not seem at all liable to get out of order. The mangle and dress board works on pivots below the bottom rollers, and the speciality of the patent is the ease with which these can be fixed for either wringing or mangling purposes. The framework consists of hollow tubes of malleable iron, very light and yet easily strung. The wheels and bearings are carefully guarded, and the chance of accidents are very much reduced.



THE PHOENIX WRINGER AND MANGLE.

## A NEW FIRE EXTINGUISHER.

(ILLUSTRATED.)

THE Harden Star Hand Grenade Fire Extinguisher Company have produced an exceedingly valuable fire extinguisher, and we have had pleasure in seeing it at work and noting how thoroughly it performed the very important task of extinguishing fires. In many instances, both in this country and America, it has already been instrumental in extinguishing many fires before the flames have got a too powerful hold on houses or their contents. It will be seen from the illustration that the extinguisher is a handy little article, small and convenient for handling. One should be hung up in every house, warehouse, manu-

age, is not affected by any climate, and is perfectly harmless to person or clothing. The contents of the grenade when thrown into fire vaporizes immediately into immense volumes of fire-extinguishing gas, in which combustion cannot possibly exist. We are very glad to call attention to a so useful article and think many manufacturers and others will find it well worth their careful consideration. The firm publish a list of testimonials from many very large houses, both in this country and America. It is impossible to question its value, and we have been present at two very interesting experiments when fires have been extinguished with one grenade in the most remarkable manner.

THE SIMPLEX FOUNTAIN PEN (ILLUSTRATED).—We give an illustration of a very simple and effective fountain pen called the Simplex produced by Sir Joseph Causton and Sons, of Southwark-street. The pen is free from the usual defects of fountain pens, it writes well, and does not blot or smear as nearly all specialities of this kind do. Any nib can be used with it, and a very large amount of writing can be done with one filling. It is almost impossible to have any leakage, and when the instructions, which are very simple, are carried out there is no like of any complaint. The price is so low as to bring the Simplex within the reach of all.

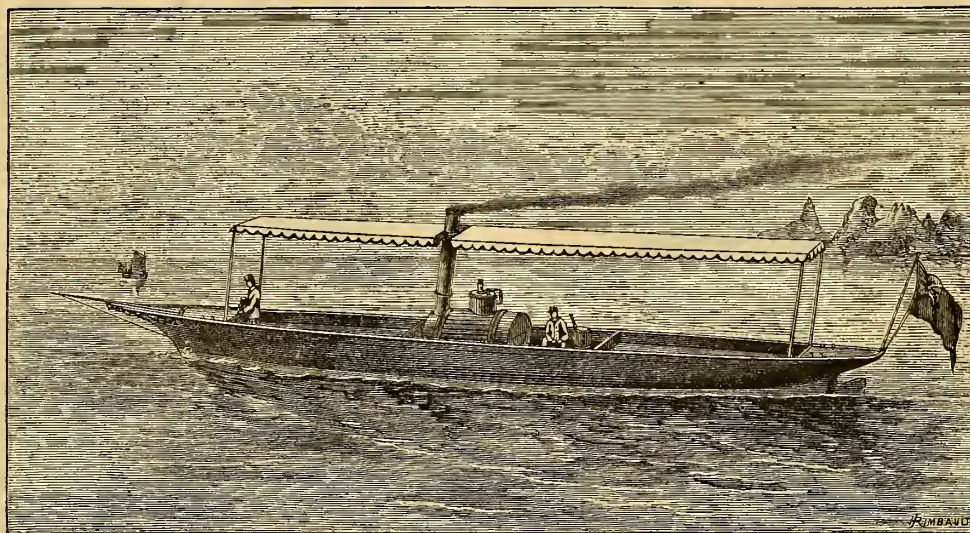
## Commercial Failures.

According to *Kemp's Mercantile Gazette*, the number of failures in England and Wales gazetted during the four weeks ending Saturday, October 25th, was 273. The number in the corresponding four weeks of last year was 643, showing a decrease of 370, being a net decrease in 1884, to date, of 5,403.

The failures were distributed amongst the following trades; and for comparison, we give the number in each, in the corresponding weeks in 1882 and 1883:—

	1884.	1883.	1882.
Building Trades ... ..	34	72	86
Chemists and Druggists ...	3	6	5
Coal and Mining Trades...	3	17	9
Corn and Cattle ... ..	5	16	15
Drapery Trades ... ..	30	35	72
Earthenware Trades ... ..	3	6	4
Farmers ... ..	18	25	43
Furniture and Upholstery Trades	8	6	16
Grocery and Provision Trades ...	39	141	190
Hardware and Metal Trades ...	6	23	37
Iron and Steel Trades ... ..	11	23	33
Jewellery and Fancy Trades ...	9	34	25
Leather and Coach Trades ...	21	39	42
Merchants, Brokers, and Agents	18	48	92
Printing and Stationery Trades	10	7	12
Wine, Spirit, and Beer Trades	21	75	68
Miscellaneous ... ..	34	70	68





THE S.S. "DELTA."

### Delta Metal.

[ILLUSTRATED.]

**T**HIS alloy is an improved brass, but is as much superior to ordinary brass alloys as steel is to iron, or phosphor bronze to ordinary gun metal. The metal was only introduced eighteen months ago by the inventor, Mr. Alexander Dick, of Cannon-street, but has already secured a large market in various manufactures. It can be forged and stamped easier than wrought iron, and thus treated becomes as strong as mild steel. When cast it is twice as strong as best brass. The launch, of which we give an illustration, was built entirely in Delta metal by Messrs. Yarrow and Co., Poplar. This launch, as also Mr. Dicks' other exhibits, received the very highest award, viz., the diploma of honour, at the recent London International Exhibition, Crystal Palace. We have had much pleasure in comparing this product with many others now in use for harness purposes, for bits, harness fittings, &c. There can be no question as to its suitability for all these purposes, and in very many respects it possesses features not claimed by existing metals or alloys. Its strength is a special advantage.

objections, but Mr. Morris has succeeded in overcoming several of these in his patent. As will be seen by the illustrations it can be folded into a very small compass indeed, and this is of course a special recommendation for export purposes. As far as we have been able to ascertain there is a saving in bulk of over 100 per cent. as compared with other mattresses. It is made of extra quality steel wire specially plated, and are double woven diagonally so that where additional strength is given there is a perfectly smooth surface, a highly important feature as it protects the upper mattress from being torn and destroyed. Further the wire is silver plated, thus preventing rust, and the way in which it is fixed and works secures the isolation of each sleeper in a double bed and entirely prevents depression in the centre. No bedstead is necessary, and in every respect it is superior to a water bed, which it quite excels in comfort. It is very easily adjustable, two or three turns of a screw making it either hard or soft. We should strongly recommend subscribers to apply for agencies for this invention. The patentees are willing to supply the mattress without frame when desired, and as we have already said, the mattress can be so folded as to take up

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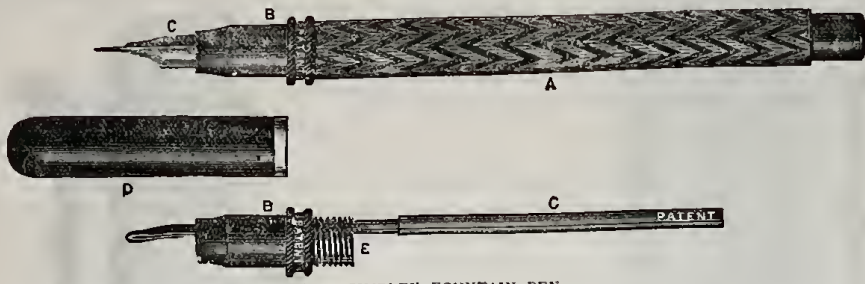
12,747. J. Simmonds, of Victoria-street, Bristol, for an  
 12,748. Improved cooking utensils, to be known as the CONFINED  
 SYSTEM. Dated September 24, 1884.  
 12,749. W. Shaw, of Glasgow, for improvements in stove  
 cooking ranges. Dated September 24, 1884.  
 12,750. W. Dilworth, of London, for improvements in  
 structure of safety valves for preventing explosions in  
 ranges and other hot water boilers. Dated September 24, 1  
 12,816. J. Stephens, of Stonehouse, Gloucestershire, for  
 improvements in the construction of HEATING APPARATUS  
 September 26, 1884.  
 12,822. C. Barton, of London, for a new or improve  
 CARBON BURNER for lamps or stoves. Dated September 26  
 12,826. S. Pascoek, of London, for improvements in  
 Dated September 26, 1884.  
 12,887. W. H. Beck, a communication from J. Sch  
 N. Despois, of Paris, for a new or improved hydro-pneu  
 12,906. Dated September 27, 1884.

Mr. MacKenzie, the President of the Singer Sewing Machine Manufacturing Company, has just returned to America after visiting England.

A hundred years ago the export of cotton from America to England was "eight bags." Last year it was 1,766,597 bales.

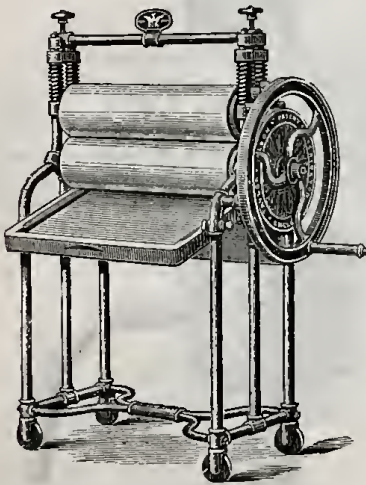
houses, and of course still more useful in factories and workshops where a number of hands are employed. It should be added that the apparatus is made of copper and brass, is self-acting, can scarcely get out of order, and when fitted requires no further attention. Agents are being appointed in different parts of the country, and we think a good trade can easily be done in the article.





THE SIMPLEX FOUNTAIN PEN.

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THE Harden Star Hand Grenade Fire Extinguisher Company have produced an exceedingly valuable fire extinguisher, and we have had pleasure in seeing it at work and noting how thoroughly it performed the very important task of extinguishing fires. In many instances, both in this country and America, it has already been instrumental in extinguishing many fires before the flames have got a too powerful hold on houses or their contents. It will be seen from the illustration that the extinguisher is a handy little article, small and convenient for handling. One should be hung up in every house, warehouse, manu-



factory, stable, or the like, and any watchman can easily carry one with him. The cost is less than four shillings each and in many instances one of these little articles will save as many hundred pounds in five minutes. The grenade consists of a glass flask, hermetically sealed, filled with a chemical fluid which does not deteriorate with

age, is not affected by any climate, and is perfectly harmless to person or clothing. The contents of the grenade when thrown into fire vaporizes immediately into immense volumes of fire-extinguishing gas, in which combustion cannot possibly exist. We are very glad to call attention to a so useful article and think many manufacturers and others will find it well worth their careful consideration. The firm publish a list of testimonials from many very large houses, both in this country and America. It is impossible to question its value, and we have been present at two very interesting experiments when fires have been extinguished with one grenade in the most remarkable manner.

THE SIMPLEX FOUNTAIN PEN (ILLUSTRATED).—We give an illustration of a very simple and effective fountain pen called the Simplex produced by Sir Joseph Causton and Sons, of Southwark-street. The pen is free from the usual defects of fountain pens, it writes well, and does not blot or smear as nearly all specialities of this kind do. Any nib can be used with it, and a very large amount of writing can be done with one filling. It is almost impossible to have any leakage, and when the instructions, which are very simple, are carried out there is no like of any complaint. The price is so low as to bring the Simplex within the reach of all.

### Commercial Failures.

According to *Kemp's Mercantile Gazette*, the number of failures in England and Wales gazetted during the four weeks ending Saturday, October 25th, was 273. The number in the corresponding four weeks of last year was 643, showing a decrease of 370, being a net decrease in 1884, to date, of 5,403.

The failures were distributed amongst the following trades; and for comparison, we give the number in each, in the corresponding weeks in 1882 and 1883:—

	1884.	1883.	1882.
Building Trades ...	34	72	86
Chemists and Druggists ...	3	6	5
Coal and Mining Trades ...	3	17	9
Corn and Cattle ...	5	16	15
Drapery Trades ...	30	35	72
Earthenware Trades ...	3	6	4
Farmers ...	18	25	43
Furniture and Upholstery Trades	8	6	16
Grocery and Provision Trades ...	39	141	190
Hardware and Metal Trades ...	6	23	37
Iron and Steel Trades ...	11	23	33
Jewellery and Fancy Trades ...	9	34	25
Leather and Coach Trades ...	21	39	42
Merchants, Brokers, and Agents	18	48	92
Printing and Stationery Trades	10	7	12
Wine, Spirit, and Beer Trades	21	75	68
Miscellaneous ...	34	70	68

Totals for England and Wales—	273	643	817
„ Scotland ...	77	92	68
„ Ireland ...	12	18	10
Totals for United Kingdom ...	362	753	895

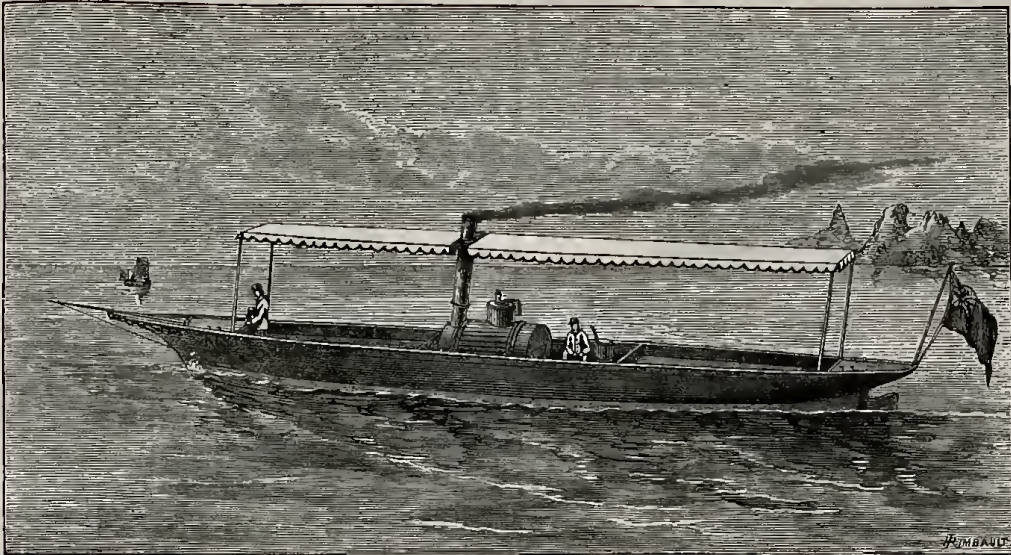
The number of Bills of Sale published in England and Wales for the four weeks ending Saturday, October 25th, was 986. The number in the corresponding four weeks of last year was 934, showing an increase of 52, being a net decrease in 1884, to date, of 480.

The number published in Ireland for the same four weeks was 70. The number in the corresponding four weeks of last year was 50, showing an increase of 20, being a net decrease in 1884, to date, of 549.









THE S.S. "DELTA."

### Delta Metal.

[ILLUSTRATED.]

**T**HIS alloy is an improved brass, but is as much superior to ordinary brass alloys as steel is to iron, or phosphor bronze to ordinary gun metal. The metal was only introduced eighteen months ago by the inventor, Mr. Alexander Dick, of Cannon-street, but has already secured a large market in various manufactures. It can be forged and stamped easier than wrought iron, and thus treated becomes as strong as mild steel. When cast it is twice as strong as best brass. The launch, of which we give an illustration, was built entirely in Delta metal by Messrs. Yarrow and Co., Poplar. This launch, as also Mr. Dicks' other exhibits, received the very highest award, viz., the diploma of honour, at the recent London International Exhibition, Crystal Palace. We have had much pleasure in comparing this product with many others now in use for harness purposes, for bits, harness fittings, &c. There can be no question as to its suitability for all these purposes, and in very many respects it possesses features not claimed by existing metals or alloys. Its strength is a special advantage, and it is also capable of being very easily worked up into any shape or design required. As an illustration of this, the launch is a remarkable one, and visitors to the Crystal Palace will not require to be told of its advantages.

### Morris's Wire Mattress.

(ILLUSTRATED.)

**W**E give illustrations of the patent double woven Wire Mattress manufactured by Mr. J. Morris, Fire and Hydraulic Engineer, of Salford, Manchester, for which many advantages are claimed, and it is not without good reason claimed as the coming mattress for the home, colonial, and foreign markets. Existing spring mattresses are generally open to one or more

objections, but Mr. Morris has succeeded in overcoming several of these in his patent. As will be seen by the illustrations it can be folded into a very small compass indeed, and this is of course a special recommendation for export purposes. As far as we have been able to ascertain there is a saving in bulk of over 100 per cent. as compared with other mattresses. It is made of extra quality steel wire specially plated, and are double woven diagonally so that where additional strength is given there is a perfectly smooth surface, a highly important feature as it protects the upper mattress from being torn and destroyed. Further the wire is silver plated, thus preventing rust, and the way in which it is fixed and works secures the isolation of each sleeper in a double bed and entirely prevents depression in the centre. No bedstead is necessary, and in every respect it is superior to a water bed, which it quite excels in comfort. It is very easily adjustable, two or three turns of a screw making it either hard or soft. We should strongly recommend subscribers to apply for agencies for this invention. The patentees are willing to supply the mattress without frame when desired, and as we have already said, the mattress can be so folded as to take up little or no space for warehousing. The mattress has already become very popular both in British and foreign markets to a great extent on account of the uniform excellence of the manufacture.

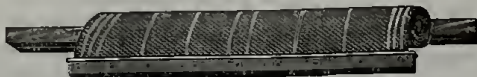
### A New Throttle Valve.

(ILLUSTRATED.)

**W**E give two illustrations of the new Throttle Valve introduced by Messrs. Foster & Pearson, of Beaston. The special advantage claimed for this over other throttle valves is that it is the only valve in which the working-parts can be taken out with the valve-wing in any position. The working-parts of the patent apparatus can only be removed when the wing is open.



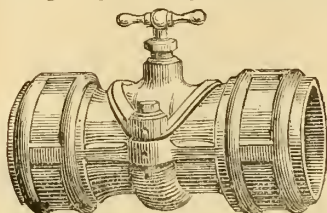
MORRIS'S WIRE MATTRESS (AS IN USE).



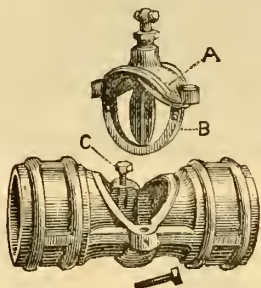
MORRIS'S WIRE MATTRESS (ROLLED UP FOR TRANSPORT).



whilst in other throttle-valves made with movable seats the wing must be shut before the valve can be taken to pieces. Although experience proves that the number of



valves which cannot be shut through corrosion, &c., is far in excess of those which cannot be opened owing to the same cause, the patentees have thought it advisable to bring out a valve which shall come to pieces in any

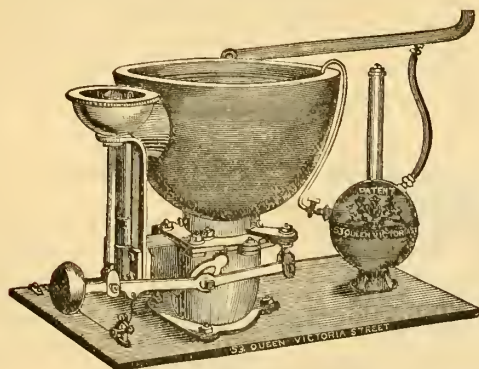


position, thus removing all danger of failure. The valve seat B is of iron, and is attached to the cap A, so that all the working-parts are thoroughly accessible.

## Patent Automatic Disinfecter.

(ILLUSTRATED.)

WE give an illustration showing how the London Patent Automatic Disinfecter as at the Health Exhibition (Stand 61, Class 23) is applied. It supplies a want which has been acknowledged for a long period, and will be found exceedingly useful as a preventive of typhoid and other fevers. The application of the apparatus effectually neutralises and destroys the foul gases arising from drains and sewers, as well as disinfecting and deodorising all objectionable matter. The



THE LONDON AUTOMATIC DISINFECTOR.

apparatus is very cheap, is quite out of sight, and at the cost of about 2s. 6d. will disinfect something like 10,000 gallons of matter. It can be re-charged at any time in a few minutes, and will be found valuable in private

## Domestic Patents.

The following lists have been compiled expressly for this Journal by Mr. G. F. Redfern, Patent Agent, of 4, South-street, Finsbury, London, and at Paris and Brussels.

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- 12,882. W. H. Mc Dougall, of London, for improvements in WASHING MACHINES. Dated September 27, 1884.
- 13,192. G. W. Harris, of Leeds, for improvements in, and in connection with, STEAM WASHING MACHINES. Dated October 4, 1884.
- 13,320. H. Haworth, and J. Hartley, of Haslingden, Lancashire, for SHOE BLACKING MACHINE. Dated October 8, 1884.
- 13,360. T. Birkbeck, and E. Miller, of Sunderland, for improved WRINGING MACHINE ROLLERS. Dated October 9, 1884.
- 13,401. H. H. Cobbett, of London, for a paddle for BLUEING WATER for washing purposes. Dated October 10, 1884.

#### COOKING, HEATING, AND LIGHTING APPARATUS.

- 12,321. W. W. Cox, of Torquay, for improvements in regulating the supply of gas to the flame in ordinary GAS BURNERS. Dated September 12, 1884.
- 12,382. H. Bochle, of London, for improvements in REFLECTORS. Dated September 13, 1884.
- 12,384. W. Ramsey, of Fleet-street, London, for improved construction of backs for argand reflector LAMPS. Dated September 13, 1884.
- 12,411. C. Whitfield, of Kettering, Northamptonshire, for an improved BGG-COOKER. Dated September 15, 1884.
- 12,509. E. Camp, of Strand, London, for improvements in holders to contain NIGHT LIGHTS, ships' lights, and other candles burning during a given quantity of time. Dated September 17, 1884.
- 12,529. C. H. Ancill, of Birmingham, for certain improvements in OIL and GAS LAMPS. Dated September 18, 1884.
- 12,563. T. J. Constantine, of Fleet-street, London, for improvements in, and connected with SAUCEPANS, and like cooking vessels. Dated September 18, 1884.
- 12,572. J. F. Fuller, of Dublin, for the improved construction of TEA POTS, and other similar utensils. Dated September 19, 1884.
- 12,652. C. S. Snell, of London, for improvements in the construction of COOKING UTENSILS. Dated September 20, 1884.
- 12,667. W. Hill, of London, for an improved PORTABLE OVEN.

- 12,967. T. Caink, of Leigh, Worcestershire, for an improved apparatus for LIGHTING and EXTINGUISHING GAS. Dated Sept. 30, 1884.
- 12,971. W. Holbrook, of London, for improvements in the arrangement and construction of GAS COOKING STOVES. Dated September 30, 1884.
- 12,973. H. K. Bromhead, of Newgate-street, London, for improvements in kitchen RANGES and STOVES. Dated Sept. 30, 1884.
- 13,028. B. Knight, and J. Durant, both of London, for improvements in the manufacture of the PULLEY FRAMES of sliding chandeliers and gaseliers. Dated October 1, 1884.
- 13,060. T. Redmayne, of Sheffield, for improvements in GAS BURNERS for cooking and heating purposes. Dated Oct. 2, 1884.
- 13,084. J. Somerville, and W. H. Y. Webber, both of Overhill-road, Forest Hill, London, for improvements in GAS COOKING STOVES. Dated October 2, 1884.
- 13,093. T. Fletcher, of Manchester, for improvements in gas cooking and HEATING APPARATUS. Dated October 2, 1884.
- 13,106. W. Outim, and H. Wade, both of Lawley-street, Clapton, London, for improvements in the construction of KETTLES, saucepans, coppers, and other apparatuses employed in heating and boiling. Dated October 2, 1884.
- 13,108. H. H. Lake, a communication from L. B. Bainbridge, of United States, for improvements in, and relating to, GAS BURNERS. Dated October 2, 1884.
- 13,238. A. Hunter, of London, for improvements in KITCHEN RANGES. Dated October 6, 1884.
- 13,263. W. and W. Shaw, junior, both of Birmingham, for a new or improved REGISTER or heat regulator for cooking ranges, and other domestic fire places and stoves. Dated October 7, 1884.
- 13,300. W. Nunn, of London, for an improvement connected with the GALLERIES of GAS, candle, oil, or other lamps. Dated October 7, 1884.
- 13,452. B. Hawerkamp, of Stockwell-road, London, for improvements in GRATES and KITCHENERS. Dated October 11, 1884.
- 13,463. E. J. Jones, of London, for improvements in COOKING and HEATING STOVES in which light or volatile oils are burned. Dated October 11, 1884.
- 13,472. H. Thompson, of London, for improvements in the construction of STOVES and GRATES. Dated October 11, 1884.
- 13,490. W. H. Tooth, of London, for improvements in the method of HEATING ROOMS and buildings, and apparatus or stoves therefore. Dated October 11, 1884.
- 13,510. W. Sandbrook, of Dalston, London, for improvements in LAMP BURNERS. Dated October 13, 1884.

## CYCLES AND ACCESSORIES.

- 12,353. W. J. R. Elgy, of London, for an improved TRICYCLE. Dated September 12, 1884.
- 12,373. J. W. Couchman, of Cannon-street, London, for improvements in BICYCLES and TRICYCLES. Dated September 13, 1884.
- 12,440. A. C. Henderson, and F. N. Cookson, both of London, for an improved bearing for BICYCLES and other velocipedes. Dated September 16, 1884.
- 12,450. A. C. Henderson, and F. N. Cookson, both of London, for an improved TRICYCLE. Dated September 16, 1884.
- 12,507. T. Warwick, of Staple Inn, London, for improvements in BICYCLES, sociables, and other velocipedes. Dated September 17, 1884.
- 12,539. H. J. Hudson, of Fleet-street, London, for improvements in the method of rendering the seats or saddles of VELOCIPEDES adjustable. Dated September 18, 1884.

- 13,216. A. Peddie, of Sunderland, Durham, for SAFETY BICYCLES. Dated October 6, 1884.
- 13,259. S. Davis, of Hove, Brighton, for improvements in velocipedes and bicycle SADDLES. Dated October 7, 1884.
- 13,285. E. Burstow, of Queen-street, Cheapside, London, for improvements in GEARING APPARATUS for the driving wheels of velocipedes and other locomotive machines and engines. Dated October 7, 1884.
- 13,291. E. C. F. Otto, of London, for improvements in BICYCLES and other one-track and other velocipedes. Dated October 7, 1884.
- 13,294. J. Bate, of Wilson-street, Finsbury, London, for improvements in TRICYCLE HORSES. Dated October 7, 1884.
- 13,308. B. Oldfield, of Coventry, for improvements in BICYCLES and like velocipedes. Dated October 8, 1884.
- 13,331. F. J. J. Gibbons, of London, for an improved construction of TANDEM QUADRICYCLE capable of conversion into two distinct tricycles. Dated October 8, 1884.
- 13,354. W. B. Smith, of London, for improvements in VELOCIPEDES. Dated October 9, 1884.
- 13,456. H. H. Lambert, of High Holborn, London, for improvements in BICYCLES. Dated October 11, 1884.
- 13,481. C. W. R. Duerre, of London, for improvements in the construction of TANDEM SOCIABLE TRICYCLES. Dated Oct. 11, 1884.
- 13,483. W. B. Downey, of Hendon, London, for an improved DOUBLE DRIVING GEAR for velocipedes. Dated October 11, 1884.
- 13,386. H. J. Pausey, of Clapham, London, for improved TANGENT WHEEL for velocipedes and light vehicles. Dated October 10, 1884.
- 13,508. W. H. White, of London, for improvements in VELOCIPEDES. Dated October 13, 1884.
- 13,511. J. K. Starley, of London, for improvements in ELASTIC TYRES for the better securing the same to velocipedes and like light wheels. Dated October 13, 1884.
- 13,516. J. R. Henson, of London, for an improved BEARING for carrying the hub lamps of velocipedes. Dated October 13, 1884.

## SANITARY APPLIANCES.

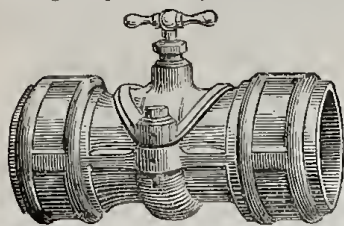
- 12,519. D. J. and C. B. Callow, and H. J. Eck, all of Walham Green, London, for an apparatus for automatically discharging any given quantity of disinfecting, deodorising, or other fluid into FLUSHING TANKS or other receptacles for the purpose of disinfecting, deodorising, or for other purposes. Dated September 17, 1884.
- 12,538. W. Mangnall, of London, for improvements in WATER CLOSERS. Dated September 18, 1884.
- 12,548. F. J. Austin, of London, for improvements in apparatus for containing disinfecting material, chiefly applicable to urinals and WATER CLOSERS. Dated September 18, 1884.
- 12,683. E. W. Lyne, of London, for improvements in, or applicable to CLOSERS. Dated September 22, 1884.
- 12,689. J. Walker, of Augusta-street, Birmingham, for improvements in the manufacture of HANDLES for flush handles, flush rings, and flush catches. Dated September 23, 1884.
- 12,783. T. Mooney, of City-road, Hulme, Manchester, for an improvement in the wash-out water closet, called the TRAPLESS WASH-OUT BASIN. Dated September 25, 1884.
- 12,921. A. Whincop, of Church-street, Stoke Newington, London, for a WATER WASH PREVENTING CISTERN. Dated Sept. 29, 1884.
- 13,016. A. G. Browning, of Llanelly, for FLUSHING WATER CLOSERS. Dated October 1, 1884.
- 13,164. R. H. Perks, of Birmingham, for self-closing WATER PREVENTING VALVE for use in flushing cisterns. Dated Oct. 4, 1884.
- 13,225. J. Kretschmann, of Fleet-street, London, for improvements in WATER CLOSERS.

11,226. S. W. Johnson, locks, 4d.  
11,199. H. H. Lake, sewing button holes, 1s.  
11,022. J. Holzgers, holders for needles, &c., 4d.  
10,928. H. J. Allison, driving sewing machines, &c., 6d.  
10,926. W. P. Thompson, bobbin winding and tension attachments for sewing machines, 6d.  
10,820. A. F. Petersen, corkstrewing appliances, 4d.  
10,742. S. B. Goslin and J. J. Brown, water closet apparatus, 4d.  
10,694. F. W. Chetchem, automatic brake for sewing machines, 6d.  
10,600. E. Newton, trap for water closets, &c., 4d.  
10,449. H. J. Hadden, bicycles, &c.  
10,463. A. J. Boulton, screw drivers, &c.  
9,985. W. P. Thompson, sewing machines, &c., 6d.  
9,976. J. H. Johnson, secret or combination locks, &c., 6d.  
9,260. S. Woodall, washers, 8d.  
8,513. W. K. Lake, supplying air to lamps, &c.  
and tool bag, 4d.  
8,465. J. Lee and E. Whittington, combined bicycle saddle spring

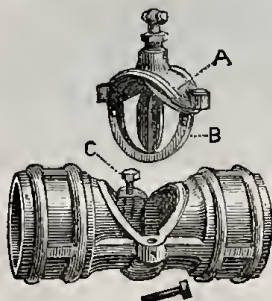
lock or latch. Dated March 6, 1884.  
4,459. J. C. Garrod, of Folkestone, for an improved SAFETY KETTLE. Dated March 6, 1884.  
4,456. H. Barrow, of Cannon-street, London, for an improved mangle and WRINKLING MACHINES. Dated March 3, 1884.  
4,250. W. Norman, of Northampton, for improvements in ironing, earth and water closets. Dated February 2, 1884.  
2,614. J. Bonkin, of Bournemouth, for improvements in COMBINING FASTENERS. Dated January 30, 1884.  
2,379. S. Willett, of Heme Hill, Surrey, for an improved WINDOW cable to PERANAUTATORS. Dated January 28, 1884.  
2,257. H. W. Twigg, of Bristol, for improvements in, or applicable to such like vehicles. Dated January 24, 1884.  
Great Eastern-street, London, for improvements in TRICYCLES and other purposes. Dated January 9, 1884.  
2,061. W. T. Shaw, of Surbiton, Surrey, and W. Sydenham, of Durham, for improvements in COLD WATER TAPS, for house use and other purposes. Dated January 9, 1884.  
1,094. R. Halliwood, of Escamp Bridge, near Bishop Auckland, for improvements in cold water TAPS, for house use and other purposes. Dated January 9, 1884.



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THE LONDON AUTOMATIC DISINFECTOR.

apparatus is very cheap, is quite out of sight, and at the cost of about 2s. 6d. will disinfect something like 10,000 gallons of matter. It can be re-charged at any time in a few minutes, and will be found valuable in private houses, and of course still more useful in factories and workshops where a number of hands are employed. It should be added that the apparatus is made of copper and brass, is self-acting, can scarcely get out of order, and when fitted requires no further attention. Agents are being appointed in different parts of the country, and we think a good trade can easily be done in the article.

A hundred years ago the export of cotton from America to England was "eight bags." Last year it was 1,766,597 bales.

Mr. MacKenzie, the President of the Singer Sewing Machine Manufacturing Company, has just returned to America after visiting England.

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- 12,882. W. H. Mc Dougall, of London, for improvements in WASHING MACHINES. Dated September 27, 1884.
- 13,102. G. W. Harris, of Leeds, for improvements in, and in connection with, STEAM WASHING MACHINES. Dated October 4, 1884.
- 13,320. H. Haworth, and J. Hartley, of Haslingden, Lancashire, for SHOE BLACKING MACHINE. Dated October 8, 1884.
- 13,360. T. Birkbeck, and E. Miller, of Sunderland, for improved WRINGING MACHINE ROLLERS. Dated October 9, 1884.
- 13,401. H. H. Cobbett, of London, for a paddle for BLUEING WATER for washing purposes. Dated October 10, 1884.

#### COOKING, HEATING, AND LIGHTING APPARATUS.

- 12,321. W. W. Cox, of Torquay, for improvements in regulating the supply of gas to the flame in ordinary GAS BURNERS. Dated September 12, 1884.
- 12,382. H. Bochle, of London, for improvements in REFLECTORS. Dated September 13, 1884.
- 12,384. W. Ramsey, of Fleet-street, London, for improved construction of backs for argand reflector LAMPS. Dated September 13, 1884.
- 12,411. C. Whitfield, of Kettering, Northamptonshire, for an improved BGG-COOKER. Dated September 15, 1884.
- 12,509. E. Camp, of Strand, London, for improvements in holders to contain NIGHT LIGHTS, ships' lights, and other candles burning during a given quantity of time. Dated September 17, 1884.
- 12,529. C. H. Ancill, of Birmingham, for certain improvements in OIL and GAS LAMPS. Dated September 18, 1884.
- 12,563. T. J. Constantine, of Fleet-street, London, for improvements in, and connected with SAUCEPANS, and like cooking vessels. Dated September 18, 1884.
- 12,572. J. F. Fuller, of Dublin, for the improved construction of TEA POTS, and other similar utensils. Dated September 19, 1884.
- 12,652. C. S. Snell, of London, for improvements in the construction of COOKING UTENSILS. Dated September 20, 1884.
- 12,667. W. Hill, of London, for an improved PORTABLE OVEN. Dated September 22, 1884.
- 12,743. J. Simmonds, of Victoria-street, Bristol, for an improvement in cooking utensils, to be known as THE CONFINED STEAM SYSTEM. Dated September 24, 1884.
- 12,747. W. Shaw, of Glasgow, for improvements in STOVES and cooking ranges. Dated September 24, 1884.
- 12,766. W. Dilworth, of London, for improvements in the construction of SAFETY VALVES for preventing explosions in kitchen ranges and other hot water boilers. Dated September 24, 1884.
- 12,816. J. Stephens, of Stonehouse, Gloucestershire, for improvements in the construction of HEATING APPARATUS. Dated September 26, 1884.
- 12,822. C. Barton, of London, for a new or improved HYDRO CARBON BURNER for lamps or stoves. Dated September 26, 1884.
- 12,846. S. Peacock, of London, for improvements in OVEN. Dated September 26, 1884.
- 12,887. W. H. Beck, a communication from J. Schneur N. Despotopol, of Paris, for a new or improved hydro-pneumatic stove. Dated September 27, 1884.







- 12,967. T. Calk, of Leigh, Worcestershire, for an improved apparatus for LIGHTING and EXTINGUISHING GAS. Dated Sept. 30, 1884.
- 12,971. W. Holbrook, of London, for improvements in the arrangement and construction of GAS COOKING STOVES. Dated September 30, 1884.
- 12,973. H. K. Bromhead, of Newgate-street, London, for improvements in kitchen RANGES and stoves. Dated Sept. 30, 1884.
- 13,028. B. Knight, and J. Durant, both of London, for improvements in the manufacture of the PULLEY FRAMES of sliding chandeliers and gaseliers. Dated October 1, 1884.
- 13,060. T. Redmayne, of Sheffield, for improvements in GAS BURNERS for cooking and heating purposes. Dated Oct. 2, 1884.
- 13,084. J. Somerville, and W. H. Y. Webber, both of Overhill-road, Forest Hill, London, for improvements in GAS COOKING STOVES. Dated October 2, 1884.
- 13,093. T. Fletcher, of Manchester, for improvements in gas cooking and HEATING APPARATUS. Dated October 2, 1884.
- 13,106. W. Outtim, and H. Wade, both of Lawley-street, Clapton, London, for improvements in the construction of KETTLES, saucepans, coppers, and other apparatuses employed in heating and boiling. Dated October 2, 1884.
- 13,108. H. H. Lake, a communication from L. B. Bainbridge, of United States, for improvements in, and relating to, GAS BURNERS. Dated October 2, 1884.
- 13,238. A. Hunter, of London, for improvements in KITCHEN RANGES. Dated October 6, 1884.
- 13,263. W. and W. Shaw, junior, both of Birmingham, for a new or improved REGISTER or heat regulator for cooking ranges, and other domestic fire places and stoves. Dated October 7, 1884.
- 13,300. W. Nunn, of London, for an improvement connected with the GALLERIES OF GAS, candle, oil, or other lamps. Dated October 7, 1884.
- 13,432. B. Hawerkamp, of Stockwell-road, London, for improvements in GRATES and KITCHENERS. Dated October 11, 1884.
- 13,463. E. J. Jones, of London, for improvements in COOKING and HEATING STOVES in which light or volatile oils are burned. Dated October 11, 1884.
- 13,472. H. Thompson, of London, for improvements in the construction of STOVES and GRATES. Dated October 11, 1884.
- 13,490. W. H. Tooth, of London, for improvements in the method of HEATING ROOMS and buildings, and apparatus or stoves therefore. Dated October 11, 1884.
- 13,510. W. Sandbrook, of Dalston, London, for improvements in LAMP BURNERS. Dated October 13, 1884.

## CYCLES AND ACCESSORIES.

- 12,353. W. J. R. Elgy, of London, for an improved TRICYCLE. Dated September 12, 1884.
- 12,373. J. W. Couchman, of Cannon-street, London, for improvements in BICYCLES and TRICYCLES. Dated September 13, 1884.
- 12,449. A. C. Henderson, and F. N. Cookson, both of London, for an improved bearing for BICYCLES and other velocipedes. Dated September 16, 1884.
- 12,450. A. C. Henderson, and F. N. Cookson, both of London, for an improved TRICYCLE. Dated September 16, 1884.
- 12,507. T. Warwick, of Staple Inn, London, for improvements in BICYCLES, sociables, and other velocipedes. Dated September 17, 1884.
- 12,539. H. J. Hudson, of Fleet-street, London, for improvements in the method of rendering the seats or saddles of VELOCIPEDES adjustable. Dated September 18, 1884.
- 12,587. W. Morgan, of Birmingham, for improvements in VELOCIPEDES. Dated September 19, 1884.
- 12,604. H. J. Hudson, of London, for an improved method of, and apparatus for connecting two or more tricycles together to form a TANDEM VELOCIPED. Dated September 19, 1884.
- 12,610. J. Aytoun, of Glasgow, for improvements in VELOCIPED part or parts, of which improvements are also applicable to other vehicles. Dated September 19, 1884.
- 12,632. J. Carpenter, of Dorset-street, New Town, Southampton, for VELOCIPED PEDALS. Dated September 20, 1884.
- 12,696. H. Cooper, of London, for improvements in BICYCLES and TRICYCLES. Dated September 23, 1884.
- 12,728. C. S. Snell, of London, for an improved SAFETY HANDLE BAR for bicycles. Dated September 23, 1884.
- 12,873. W. C. Herring and M. H. Hay, of London, for an improved BICYCLE SADDLE and spring combined, applicable also to tricycles. Dated September 27, 1884.
- 12,903. W. R. Lake, a communication from A. C. Patard, of Paris, for improvements in, and relating to, MECHANISM, for the utilization of muscular power for the driving of machines, and the propulsion of velocipedes and boats. Dated September 27, 1884.
- 12,934. J. K. Starley, of London, for improved means for FITTING SEATS or saddles on velocipedes. Dated July 19, 1884.
- 12,957. C. Rosenthaler, of Liverpool, for improvements in VELOCIPEDES and the like. Dated September 30, 1884.
- 13,056. J. B. Brooks, of Birmingham, for improvements in SADDLES for bicycles, tricycles, and other velocipedes. Dated October 2, 1884.
- 13,078. H. J. Lawson, of Coventry, for improvements in VELOCIPEDES. Dated October 2, 1884.
- 13,121. W. Bradley, of Broomhall Park, Sheffield, for improvements in BICYCLES and TRICYCLES or velocipedes. Dated October 3, 1884.
- 13,167. W. H. Benson, of Bristol, for a NEW MOTIVE POWER, specially applicable for the self-propulsion of bicycles, tricycles, invalid chairs, tram cars, carriages, and other like vehicles. Dated October 4, 1884.
- 13,175. S. H. Nash, of London, for improved means for COUPLING or connecting two or more tricycles. Dated October 4, 1884.
- 13,193. J. H. Hughes, of Birmingham, for improvements in BEARINGS for BICYCLES, tricycles, carriages, and machinery. Dated October 4, 1884.
- 13,205. J. C. Carpenter, of Southampton, for improvements in VELOCIPEDES. Dated October 6, 1884.

- 13,216. A. Peddie, of Sunderland, Durham, for SAFETY BICYCLES. Dated October 6, 1884.
- 13,259. S. Davis, of Hove, Brighton, for improvements in velocipedes and bicycle SADDLES. Dated October 7, 1884.
- 13,285. E. Burstow, of Queen-street, Cheapside, London, for improvements in GEARING APPARATUS for the driving wheels of velocipedes and other locomotive machines and engines. Dated October 7, 1884.
- 13,291. E. C. F. Otto, of London, for improvements in BICYCLES and other one-track and other velocipedes. Dated October 7, 1884.
- 13,294. J. Bate, of Wilson-street, Finsbury, London, for improvements in TRICYCLE HORSES. Dated October 7, 1884.
- 13,308. B. Oldfield, of Coventry, for improvements in BICYCLES and like velocipedes. Dated October 8, 1884.
- 13,331. F. J. J. Gibbons, of London, for an improved construction of TANDEM QUADRICYCLE capable of conversion into two distinct tricycles. Dated October 8, 1884.
- 13,354. W. B. Smith, of London, for improvements in VELOCIPEDES. Dated October 9, 1884.
- 13,456. H. H. Lambert, of High Holborn, London, for improvements in BICYCLES. Dated October 11, 1884.
- 13,481. C. W. R. Duerre, of London, for improvements in the construction of TANDEM SOCIABLE TRICYCLES. Dated Oct. 11, 1884.
- 13,483. W. B. Downey, of Hendon, London, for an improved DOUBLE DRIVING GEAR for velocipedes. Dated October 11, 1884.
- 13,386. H. J. Pansey, of Clapham, London, for improved TANGENT WHEEL for velocipedes and light vehicles. Dated October 10, 1884.
- 13,508. W. H. White, of London, for improvements in VELOCIPEDES. Dated October 13, 1884.
- 13,511. J. K. Starley, of London, for improvements in ELASTIC TYRES for the better securing the same to velocipedes and like light wheels. Dated October 13, 1884.
- 13,516. J. R. Henson, of London, for an improved BEARING for carrying the hub lamps of velocipedes. Dated October 13, 1884.

## SANITARY APPLIANCES.

- 12,519. D. J. and C. B. Callow, and H. J. Eck, all of Walham Green, London, for an apparatus for automatically discharging any given quantity of disinfecting, deodorising, or other fluid into FLUSHING TANKS or other receptacles for the purpose of disinfecting, deodorising, or for other purposes. Dated September 17, 1884.
- 12,538. W. Mangnall, of London, for improvements in WATER CLOSERS. Dated September 18, 1884.
- 12,548. F. J. Austin, of London, for improvements in apparatus for containing disinfecting material, chiefly applicable to urinals and WATER CLOSERS. Dated September 18, 1884.
- 12,683. E. W. Lyne, of London, for improvements in, or applicable to CLOSERS. Dated September 22, 1884.
- 12,689. J. Walker, of Augusta-street, Birmingham, for improvements in the manufacture of HANDLES for flush handles, flush rings, and flush catches. Dated September 23, 1884.
- 12,783. T. Mooney, of City-road, Hulme, Manchester, for an improvement in the wash-out water closet, called the TRAPLESS WASH-OUT BASIN. Dated September 25, 1884.
- 12,921. A. Whincop, of Church-street, Stoke Newington, London, for a WATER WASTE PREVENTING CISTERN. Dated Sept. 29, 1884.
- 13,016. A. G. Browning, of Llanelly, for FLUSHING WATER CLOSERS. Dated October 1, 1884.
- 13,164. R. H. Perks, of Birmingham, for self-closing WASTE PREVENTING VALVE for use in flushing cisterns. Dated Oct. 4, 1884.
- 13,225. J. Kretschmann, of Fleet-street, London, for improvements in WATER-CLOSET VALVES. Dated October 6, 1884.
- 13,325. G. Moore, of Cressingham-road, Lewisham, London, for an improved combined SELF-ACTING and hand actions for water closets, urinals, and other similar purposes. Dated Oct. 8, 1884.
- 13,377. J. Kemp, and F. Fissi, of London, for improvements in the PIPE CONNECTIONS of earthenware water closet pans, urinals, basins, washing basins, and sinks. Dated October 9, 1884.
- 13,458. J. Harsant, of London, for an improved APPARATUS for supplying disinfectants to water in cisterns. Dated Oct. 11, 1884.

## MISCELLANEOUS.

- 12,470. G. E. Smart, of High Holborn, London, for improvements in NAILS. Dated September 16, 1884.
- 12,534. J. C. Eddison, and J. E. Wadsworth, both of London, for improvements in SCISSORS or shears. Dated September 18, 1884.
- 12,575. J. S. W. Edmunds, of Birmingham, for improvements in SASH FASTENERS. Dated September 19, 1884.
- 12,578. J. Ashworth, of Clarendon-place, Hyde, Cheshire, for window SASH FASTENERS. Dated September 19, 1884.
- 12,599. A. Browne, a communication from J. G. Dreyfus, of Paris, for improved construction of SHOVEL. Dated September 19, 1884.
- 12,600. G. Asher, of Birmingham, for improved guillotine EGG CUP. Dated September 19, 1884.
- 12,615. A. Sweet, of Hampstead-road, London, for improvements in cisterns for flushing CLOSERS. Dated September 19, 1884.
- 12,625. W. H. Chubb, of Corporation-street, Birmingham, for improvements in LEVER LOCKS. Dated September 20, 1884.
- 12,644. R. Adams, of London, for improvements in SPRINGS for doors and other analogous purposes. Dated September 20, 1884.
- 12,736. J. Blacka, of Victoria-road, Todmorden, Yorkshire, for improvement in the form of POINTING TOOL. Dated Sept. 24, 1884.
- 12,738. W. W. Crowder, of Kyrwick-lane, Birmingham, for a combined AUTOMATIC BOLT, lock, and burglar alarm, as applied to a door or buildings, safes, strong rooms, and structures of a like nature. Dated September 24, 1884.
- 12,761. C. D. Douglas, of London, for improvements in LOCKS and latches, and in the means for adjusting and securing knobs and handles to the spindles thereof. Dated September 24, 1884.
- 12,779. A. W. Perkins, of Birmingham, for improvements in the manufacture of NEEDLES. Dated September 25, 1884.
- 12,788. J. R. Leonard, of Great Brook-street, Aston, Birmingham, for the improvement of an appliance for DRAWING CORKS. Dated September 25, 1884.
- 12,804. M. A. Wier, of Palace-grove, Upper Norwood, London, for a new or improved CORKSCREW. Dated September 25, 1884.



12,865. A. Copley, of London, for improvements in GUARD FORKS. Dated September 27, 1884.  
 12,875. W. J. Stokes, of London, for an improved SASH FASTENER. Dated September 27, 1884.  
 13,021. A. Mc Millan, of Glasgow, for improvements in DOOR SPRINGS. Dated October 1, 1884.  
 13,048. P. Hayman, of South-street, Finsbury, London, for improvements in SCISSORS. Dated October 1, 1884.  
 13,071. J. Walker, of Birmingham, for improvement in STAIR-ROD EYES or clips. Dated October 2, 1884.  
 13,082. W. S. Dimes, of Wood Green, London, for improvements in PLATE RACKS. Dated October 2, 1884.  
 13,083. S. Coombs, of Reedworth-street, Kennington-road, London, for improvements in DOOR SPRINGS. Dated Oct. 2, 1884.  
 13,089. R. Hodges, and J. Archer, both of London, for an improvement in SASH FASTENINGS. Dated Oct. 2, 1884.  
 13,101. J. Gilmore, and W. R. Clark, both of Queen Victoria-street, London, for an improved BALANCE or SCALE. Dated October 2, 1884.  
 13,124. G. W. Elliott, of Liverpool, for improvements in AXES, HAMMERS, SPADES, SHOVELS, and other tools, and in handles therefor. Dated October 3, 1884.  
 13,135. W. P. Branson, of London, for improvements in COFFEE and TEA URNS. Dated October 3, 1884.  
 13,136. G. Guy, of Fleet-street, London, for an improved means and appliance for locking the levers of window CATCH FASTENERS. Dated October 3, 1884.  
 13,143. H. Tuff, and C. R. Mathews, both of London, for improvements in WATER-WASTE PREVENTERS, especially applicable for flushing and disinfecting water closets. Dated October 3, 1884.  
 13,166. E. Sunderland, of Birmingham, for an improved BUTTON HOOK. Dated October 4, 1884.  
 13,169. W. H. Richards, and W. D. Wilkinson, both of Birmingham, for a new method of manufacturing STAIR-ROD EYES. Dated October 4, 1884.  
 13,190. A. Koch, of Strand, London, for improvements in OIL CANS. Dated October 4, 1884.  
 13,231. F. C. Hustler, of London, for improvements in window SASH FASTENERS. Dated October 6, 1884.  
 13,279. J. C. Hudson, and T. Bayley, both of London, for an improvement in LOCKS. Dated October 7, 1884.  
 13,289. G. E. Smart, of High Holborn, London, for improvements in DUST-PANS. Dated October 7, 1884.  
 13,302. W. R. Lake, a communication from H. A. Harvey, of the United States, for improvements in machines to be used in the manufacture of WOOD SCREWS. Dated October 7, 1884.  
 13,323. C. Ibbotson, of Sheffield, for improvements in the manufacture of TABLE CUTLERY, such as knives, forks, and the like articles. Dated October 8, 1884.  
 13,332. J. T. and J. Green, of London, for improvements in the latching mechanism of DOUBLE HANDED LOCKS and LATCHES, applicable also to the latching mechanism of locks and latches for swing doors and gates. Dated October 8, 1884.  
 13,361. W. Singleton and E. Priestman, both of Sheffield, for an improvement in the manufacture of SPRING KNIVES. Dated October 9, 1884.  
 13,364. A. A. Joy, of London, for improvements in SASH FASTENERS. Dated October 9, 1884.  
 13,382. J. Preston, of London, for improvements in BASSINETTE PERAMBULATORS. Dated October 9, 1884.  
 13,388. H. Smith, near Coventry, and D. Smith, near Birmingham, for improvements in WINDOW FASTENERS. Dated Oct. 10, 1884.  
 13,390. W. W. Crowder, of Birmingham, for an AUTOMATIC BOLT or fastener for doors, gates, window sash frames and shutters. Dated October 10, 1884.  
 13,391. J. Waller, and B. Farrington, of London, for improvements in BELL LEVERS and bell pulls. Dated October 10, 1884.  
 13,393. G. P. Lempriere, of Birmingham, for an improved EYE for STAIR RODS. Dated October 10, 1884.  
 13,436. C. H. Wood, of Sheffield, for improvements in the manufacture of TABLE CUTLERY. Dated October 11, 1884.  
 13,447. J. W. Angell, of Cheapside, London, for improvements in LETTER BOXES. Dated October 11th, 1884.  
 13,525. H. H. Lake, a communication from H. E. Loomie, of United States, for improvements in, and relating to, ELECTRIC BURGLAR ALARMS. Dated October 13, 1884.

#### PATENTS HAVE BEEN ISSUED FOR THE FOLLOWING:

711. G. Bisley, of Rotherhithe, London, for improvements in FASTENERS for window sashes. Dated January 4, 1884.  
 801. T. P. Bache, and G. Salter, of West Bromwich, Staffordshire, for improvements in DOOR SPRINGS. Dated January 5, 1884.  
 980. A. H. Hernn, of Kensington, London, for improved means of, and apparatus to be employed in conjunction with mechanism for REGISTERING THE DISTANCE travelled by bicycles, tricycles, or other vehicles. Dated January 5, 1884.

5,429. D. E. and C. F. Dutron, both of Washington, United States, for improvements in TRICYCLES. Dated March 25, 1884.  
 5,811. W. Devoll, of Erdington, near Birmingham, for improvements in DOUBLE SYPHONS for flushing water closets. Dated April 2, 1884.  
 6,727. G. Clutterbuck, of Peckham, London, for improvements in WATER WASTE PREVENTORS, and other apparatus for regulating the supply of water and other liquids. Dated April 23, 1884.  
 6,778. A. J. Boulton, a communication from E. Van Noorden, I. Van Baalen, J. Knight, and S. J. Mc Dowell, all of Boston, United States, for improvements in PORTABLE OVENS. Dated Apr. 24, 1884.  
 7,203. W. J. Hopkins, of Worcester, for an improved expanding and CONTRACTING GRATE. Dated May 5, 1884.  
 7,344. W. A. Lake, a communication from J. Wasse, of Stettin, Germany, for an improved HANDLE for FILES, screw drivers, awls, or other small tools. Dated May 6, 1884.  
 7,345. W. A. Lake, a communication from G. F. Harwood, of Worcester, Massachusetts, United States, for improvements in ADJUSTABLE STEPS for bicycles and other velocipedes. Dated May 6, 1884.  
 7,368. E. Capitain, a communication from H. Henstenberg, and A. Norholm, of Bielefeld, Germany, for improvements in LOCK-STITCH SEWING MACHINES. Dated May 7, 1884.  
 7,444. J. H. Johnson, a communication from W. Deckert, and E. Homolka, of Vienna, for improvements in ELECTRICAL APPARATUS for lighting gas or other lamps, or the like. Dated May 8, 1884.  
 7,672. J. W. Brown, of Leamington, Warwickshire, for improvements in KITCHENERS or cooking ranges. Dated May 13, 1884.  
 8,016. L. A. Groth, a communication from F. Schumacher, of Stuttgart, Germany, for a new or improved NEEDLE and apparatus for sewing shoes and other leather goods. Dated May 21, 1884.  
 8,795. G. S. Hull, and C. S. Hull, both of Chambersburgh, Pennsylvania, United States, for improvements in BRAKES for bicycles. Dated June 10, 1884.  
 8,844. S. H. Rowley, of Swadlincote, Derbyshire, for improvements in WATER CLOSET BASINS. Dated June 11, 1884.  
 8,845. A. Clayton and G. Jones, both near Bilston, Staffordshire, for improvements in fixing SHEET METAL HANDLES to sheet metal covers, and to other articles of sheet metal. Dated June 11, 1884.  
 8,970. A. W. L. Reddie, a communication from Schriber and Co., of Vienna, for improvements in the construction of OIL LAMPS, and in means for supplying oil to the wicks or burners therefor. Dated June 14, 1884.  
 9,010. J. H. Johnson, a communication from M. Gritzner, of Durlach, Baden, for improvements in SEWING MACHINES. Dated June 16, 1884.  
 9,363. W. F. Healy, of Bridgeport Fairfield, Connecticut, United States, for improvements in BICYCLES. Dated June 24, 1884.  
 9,511. S. Groyton, of Birmingham, for an improved GRATER for nutmegs and other articles. Dated June 27, 1884.  
 9,738. J. and T. Webb, of Coventry, for improvements in TRICYCLES. Dated July 3, 1884.  
 9,916. J. H. Johnson, a communication from Varicle & Co., and M. F. F. Moulier, of Paris, for improvements in LOCKS. Dated July 8, 1884.

#### SPECIFICATIONS PUBLISHED DURING THE MONTH.

POSTAGE ONE PENNY EACH EXTRA.—1884.

33. H. H. Lake, stitching button holes, &c., 8d.  
 145. J. Bate, fire gates and stoves, 6d.  
 164. F. Lea, lever catch fasteners for windows, 6d.  
 408. T. Parkes, spades, shovels, &c., 4d.  
 538. G. Gaskell, washing machine, 6d.  
 1,006. T. Warwick, bicycles, &c., 6d.  
 1,237. A. Murrey, lock-up cruet stand, &c., 6d.  
 1,361. W. J. Lovett, and F. W. Evans, metallic frames or hall frames, &c., 6d.  
 1,439. J. Parry, self-acting fastener for French windows, &c., 6d.  
 1,595. J. and H. Lucas, velocipede and other lamps, 6d.  
 2,045. J. Lowley, and J. Harold, fastening and opening doors, &c., 6d.  
 2,161. E. Jansen, A. Bontgen, A. Sabin, pocket knives, 4d.  
 2,399. D. Lindo, tea pots, 4d.  
 2,529. W. Barsby, lock-stitch sewing machines, 6d.  
 2,845. J. E. Walton, cork-screw, 6d.  
 3,759. C. Ibbotson, scissors and shears, 4d.  
 3,787. H. S. Paget, sewing machine appliances for fancy work, 4d.  
 3,818. C. Ibbotson, razors, 2d.  
 3,878. J. Smeaton, water closets, 4d.  
 4,023. E. G. Airers, safety lamps, 6d.  
 4,745. W. Brandon, strainer for tea pot, 4d.  
 5,077. O. Arndt, apparatus for making infusions of tea, coffee, &c., 6d.  
 6,785. J. H. King, keys, &c., 4d.  
 7,188. H. Delmaz-Azema, lighting apparatus, 6d.  
 7,928. J. Laughlin, Bicycles, 4d.  
 7,966. F. E. Boulton, washers, 6d.

# Agreement for the

Hire of a .....

No.....

The undersigned hereby hires the.....  
No.....belonging to.....  
upon the terms and conditions following:—

I. On the sum of £ : s. d. being paid to.....in.....  
instalments of £ : s. d., the first instalment to be paid on.....  
.....and each subsequent instalment at the expiration of each succeeding  
.....the.....to belong without further  
payment to the undersigned.

II. In case of default in the punctual payment of any instalment, the instalments previously  
paid shall be forfeited to.....who shall thereupon be  
entitled to resume possession of the....., the understanding being  
that until full payment of £ : s. d. the.....remains  
the sole and absolute property of.....it is not to  
be removed from the undermentioned address, can be inspected at any reasonable  
time by any duly authorised agent or servant of .....  
and is only lent on hire to the undersigned, who will take all reasonable care of it  
during the hiring, and in case of damage by fire or accident, bear the loss or risk.

Dated this.....day of.....188.....

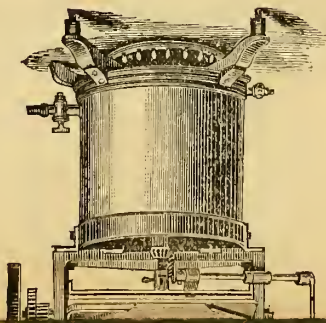
Signed.....

6D. STAMP.

Address.....

*Illustrated Catalogues and Price Lists on  
application.*

SEWING MACHINES, &C.





12,865. A. Copley, of London, for improvements in GUARD FORKS. Dated September 27, 1884.

12,875. W. J. Stokes, of London, for an improved SASH FASTENER. Dated September 27, 1884.

13,021. A. Mc Millan, of Glasgow, for improvements in OOR SPRINGS. Dated October 1, 1884.

13,048. P. Hayman, of South-street, Finsbury, London, for improvements in SCISSORS. Dated October 1, 1884.

13,071. J. Walker, of Birmingham, for improvement in STAIR-ROO EYES or clips. Dated October 2, 1884.

13,082. W. S. Dimes, of Wood Green, London, for improvements in PLATE RACKS. Dated October 2, 1884.

13,083. S. Coombs, of Reedworth-street, Kennington-road, London, for improvements in OOR SPRINGS. Dated Oct. 2, 1884.

13,089. R. Hodges, and J. Archer, both of London, for an improvement of improvements in SASH FASTENERS. Dated Oct. 2, 1884.

13,101. J. Gilmore, and W. R. Clark, both of Queen Victoria-street, London, for an improved BALANCE or SCALE. Dated October 2, 1884.

13,124. G. W. Elliott, of Liverpool, for improvements in AXES, hammers, spades, shovels, and other tools, and in handles therefore. Dated October 3, 1884.

13,135. W. P. Branson, of London, for improvements in COFFEE and TEA URNS. Dated October 3, 1884.

13,136. G. Guy, of Fleet-street, London, for an improved means and appliance for locking the levers of window CATCH FASTENERS. Dated October 3, 1884.

13,143. H. Tuff, and C. R. Mathews, both of London, for improvements in WATER-WASTE PREVENTERS, especially applicable for flushing and disinfecting water closets. Dated October 3, 1884.

13,166. E. Sunderland, of Birmingham, for an improved BUTTON HOOK. Dated October 4, 1884.

13,169. W. H. Richards, and W. D. Wilkinson, both of Birmingham, for a new method of manufacturing STAIR-ROO EYES. Dated October 4, 1884.

13,190. A. Koch, of Strand, London, for improvements in OIL CANS. Dated October 4, 1884.

13,231. F. C. Huxler, of London, for improvements in window SASH FASTENERS. Dated October 6, 1884.

13,279. J. C. Hudson, and T. Bayley, both of London, for an improvement in LOCKS. Dated October 7, 1884.

13,289. G. E. Smart, of High Holborn, London, for improvements in DUST-PANS. Dated October 7, 1884.

13,302. W. R. Lake, a communication from H. A. Harvey, of the United States, for improvements in machines to be used in the manufacture of wood SCREWS. Dated October 7, 1884.

13,323. C. Ibbotson, of Sheffield, for improvements in the manufacture of TABLE CUTLERY, such as knives, forks, and the like articles. Dated October 8, 1884.

13,332. J. T. and J. Green, of London, for improvements in the latching mechanism of DOUBLE HANDED LOCKS and LATCHES, applicable also to the latching mechanism of locks and latches for swing doors and gates. Dated October 8, 1884.

13,361. W. Singleton and E. Priestman, both of Sheffield, for an improvement in the manufacture of SPRING KNIVES. Dated October 9, 1884.

13,364. A. A. Joy, of London, for improvements in SASH FASTENERS. Dated October 9, 1884.

13,382. J. Preston, of London, for improvements in BASSINETTE PERAMBULATORS. Dated October 9, 1884.

13,388. H. Smith, near Coventry, and D. Smith, near Birmingham, for improvements in WINDOW FASTENERS. Dated Oct. 10, 1884.

13,390. W. W. Crowder, of Birmingham, for an AUTOMATIC BOLT or fastener for doors, gates, window sash frames and shutters. Dated October 10, 1884.

13,391. J. Waller, and B. Farringdon, of London, for improvements in BELL LEVERS and bell pulls. Dated October 10, 1884.

13,393. G. P. Lempiere, of Birmingham, for an improved EYE for STAIR ROOS. Dated October 10, 1884.

13,436. C. H. Wood, of Sheffield, for improvements in the manufacture of TABLE CUTLERY. Dated October 11, 1884.

13,447. J. W. Angell, of Cheapside, London, for improvements in LETTER BOXES. Dated October 11th, 1884.

13,525. H. H. Lake, a communication from H. E. Loomie, of United States, for improvements in, and relating to, ELECTRIC BURGLAR ALARMS. Dated October 13, 1884.

#### PATENTS HAVE BEEN ISSUED FOR THE FOLLOWING:

711. G. Bisley, of Rotherhithe, London, for improvements in FASTENERS for window sashes. Dated January 4, 1884.

801. T. P. Bache, and G. Salter, of West Bromwich, Staffordshire, for improvements in DOOR SPRINGS. Dated January 5, 1884.

980. A. H. Herrn, of Kensington, London, for improved means of, and apparatus to be employed in conjunction with mechanism for REGISTERING THE DISTANCE travelled by bicycles, tricycles, or other vehicles. Dated January 1, 1884.

1,034. R. Hallimond, of Escomb Bridge, near Bishop Auckland, Durham, for improvements in COLD WATER TAPS, for house use and other purposes. Dated January 9, 1884.

2,061. W. T. Shaw, of Surbiton, Surrey, and W. Sydenham, of Great Eastern-street, London, for improvements in TRICYCLES and such like vehicles. Dated January 24, 1884.

2,257. H. W. Twigg, of Bristol, for improvements in, or applicable to PERAMBULATORS. Dated January 28, 1884.

2,379. S. Willett, of Herne Hill, Surrey, for an improved WINDOW FASTENER. Dated January 30, 1884.

2,614. J. Donkin, of Bournemouth, for improvements in COMBINING EARTH and water closets. Dated February 2, 1884.

4,250. W. Norman, of Nottingham, for improvements in ironing, mangling, and WRINGING MACHINES. Dated March 3, 1884.

4,456. H. Barrow, of Cannon-street, London, for an improved KETTLE. Dated March 6, 1884.

4,459. J. C. Garrod, of Folkestone, for an improved SAFETY LOCK or latch. Dated March 6, 1884.

5,429. D. E. and C. F. Dutton, both of Washington, United States, for improvements in TRICYCLES. Dated March 25, 1884.

5,811. W. Devoll, of Erdington, near Birmingham, for improvements in DOUBLE SYPHONS for flushing water closets. Dated April 2, 1884.

6,727. G. Clutterbuck, of Peckham, London, for improvements in WATER WASTE PREVENTORS, and other apparatus for regulating the supply of water and other liquids. Dated April 23, 1884.

6,778. A. J. Boulton, a communication from E. Van Noorden, 1. Van Baalen, J. Knight, and S. J. Mc Dowell, all of Boston, United States, for improvements in PORTABLE OVENS. Dated April 24, 1884.

7,203. W. J. Hopkins, of Worcester, for an improved expanding and CONTRACTING GRATE. Dated May 5, 1884.

7,344. W. A. Lake, a communication from J. Wasse, of Stettin, Germany, for an improved HANDLE FOR FILES, screw drivers, awls, or other small tools. Dated May 6, 1884.

7,345. W. A. Lake, a communication from G. F. Harwood, of Worcester, Massachusetts, United States, for improvements in ADJUSTABLE STEPS for bicycles and other velocipedes. Dated May 6, 1884.

7,368. E. Capitain, a communication from H. Henstenberg, and A. Norholm, of Bielefeld, Germany, for improvements in LOCK-STITCH SEWING MACHINES. Dated May 7, 1884.

7,444. J. H. Johnson, a communication from W. Deckert, and E. Homolka, of Vienna, for improvements in ELECTRICAL APPARATUS for lighting gas or other lamps, or the like. Dated May 8, 1884.

7,672. J. W. Brown, of Leamington, Warwickshire, for improvements in KITCHENERS or cooking ranges. Dated May 13, 1884.

8,016. L. A. Groth, a communication from F. Schumacher, of Stuttgart, Germany, for a new or improved NEEDLE and apparatus for sewing shoes and other leather goods. Dated May 21, 1884.

8,795. G. S. Hull, and C. S. Hull, both of Chambersburgh, Pennsylvania, United States, for improvements in BRAKES for bicycles. Dated June 10, 1884.

8,844. S. H. Rowley, of Swadlincote, Derbyshire, for improvements in WATER CLOSET BASINS. Dated June 11, 1884.

8,845. A. Clayton and G. Jones, both near Bilston, Staffordshire, for improvements in FIXING SHEET METAL HANEOLES to sheet metal covers, and to other articles of sheet metal. Dated June 11, 1884.

8,970. A. W. L. Reddie, a communication from Schriber and Co., of Vienna, for improvements in the construction of OIL LAMPS, and in means for supplying oil to the wicks or burners therefore. Dated June 14, 1884.

9,010. J. H. Johnson, a communication from M. Gritzner, of Durlach, Baden, for improvements in SEWING MACHINES. Dated June 16, 1884.

9,363. W. F. Healy, of Bridgeport Fairfield, Connecticut, United States, for improvements in BICYCLES. Dated June 24, 1884.

9,511. S. Groyton, of Birmingham, for an improved GRATER for nutmegs and other articles. Dated June 27, 1884.

9,738. J. and T. Webb, of Coventry, for improvements in TRICYCLES. Dated July 3, 1884.

9,916. J. H. Johnson, a communication from Varicle & Co., and M. M. F. Moulter, of Paris, for improvements in LOCKS. Dated July 8, 1884.

#### SPECIFICATIONS PUBLISHED DURING THE MONTH.

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33. H. H. Lake, stitching button holes, &c., 8d.
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164. F. Lea, lever catch fasteners for windows, 6d.
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- 3,787. H. S. Paget, sewing machine appliances for fancy work, 4d.
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- 5,077. O. Arndt, apparatus for making infusions of tea, coffee, &c., 6d.
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- 7,188. H. Delmaz-Azema, lighting apparatus, 6d.
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- 8,813. W. K. Lake, supplying air to lamps, 5d.
- 9,260. S. Woodall, washer, 8d.
- 9,976. J. H. Johnson, secret or combination locks, &c., 6d.
- 9,985. W. P. Thompson, sewing machines, &c., 6d.
- 10,363. A. J. Boulton, screw drivers, 6d.
- 10,449. H. J. Haddon, bicycles, 4d.
- 10,460. E. Newton, trap for water closets, &c., 4d.
- 10,694. F. W. Cheetham, automatic brake for sewing machines, 6d.
- 10,742. S. B. Goslin and J. J. Brown, water closet apparatus, 4d.
- 10,820. A. F. Petersen, corkscrew appliances, 4d.
- 10,926. W. P. Thompson, bobbin winding and tension attachments for sewing machines, 6d.
- 10,928. H. J. Allison, driving sewing machines, &c., 6d.
- 11,022. J. Holzgens, holders for needles, &c., 4d.
- 11,199. H. H. Lake, sewing button holes, 1s.
- 11,226. S. W. Johnson, locks, 4d.







## Agreement for the

Hire of a .....  
 No. ....

The undersigned hereby hires the.....  
 No.....belonging to.....  
 upon the terms and conditions following:—

I. On the sum of £ : s. d. being paid to.....in.....  
 instalments of £ : s. d., the first instalment to be paid on.....  
 .....and each subsequent instalment at the expiration of each succeeding  
 .....the.....to belong without further  
 payment to the undersigned.

II. In case of default in the punctual payment of any instalment, the instalments previously  
 paid shall be forfeited to.....who shall thereupon be  
 entitled to resume possession of the....., the understanding being  
 that until full payment of £ : s. d. the.....remains  
 the sole and absolute property of.....it is not to  
 be removed from the undermentioned address, can be inspected at any reasonable  
 time by any duly authorised agent or servant of .....  
 and is only lent on hire to the undersigned, who will take all reasonable care of it  
 during the hiring, and in case of damage by fire or accident, bear the loss or risk.

Dated this.....day of.....188.....

Signed.....

6D. STAMP.

Address.....

Witness to the above Signature.....

Address of Witness.....

All Change of Residence to be intimated to .....

The above Agreement is constructed on one originally drawn up by Lord Coleridge, the Lord Chief Justice of the Common Pleas, which was submitted to Sir Hardinge F. Giffard, Her Majesty's Solicitor-General, who is of opinion "that it confers no right in equity any more than at law to the goods in question, and consequently does not require to be registered under the New Bill of Sale Act."

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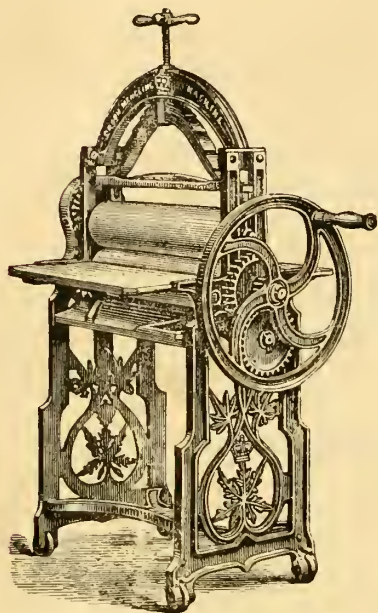
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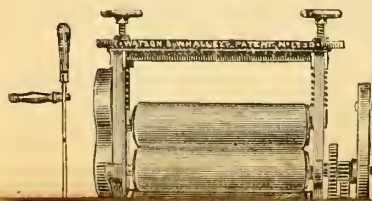
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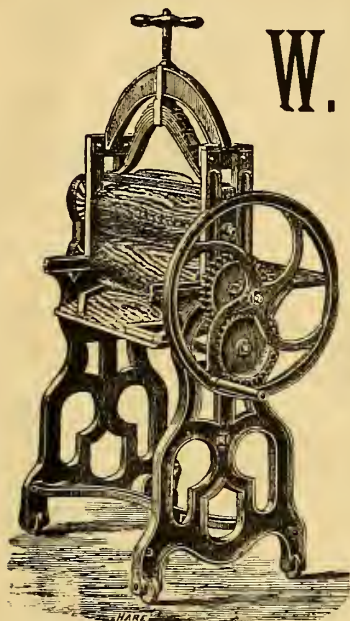
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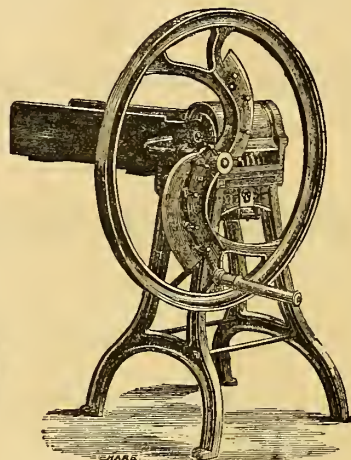


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**A**UTOMATIC HAND (WILCOX and GIBBS), £3 15s; Singers, £2 5s.—4, Nile Street, Shepherdess Walk, City Rd  
**A**ERICAN KILTER, new. Cost one guinea; offers 2—H. J. 32, Bywater Street, King's Road, Chelsea.

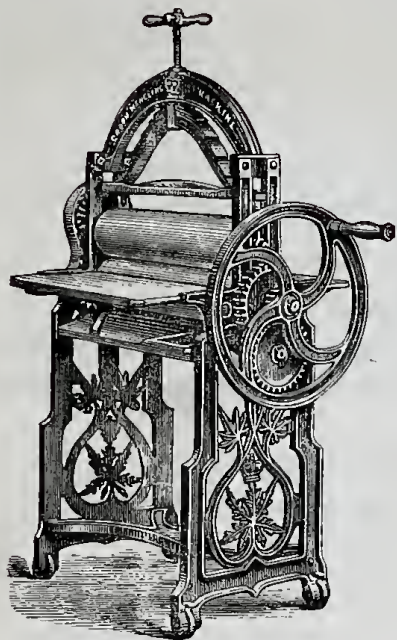
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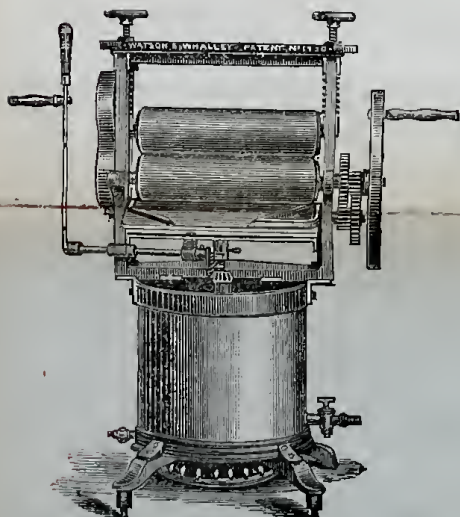
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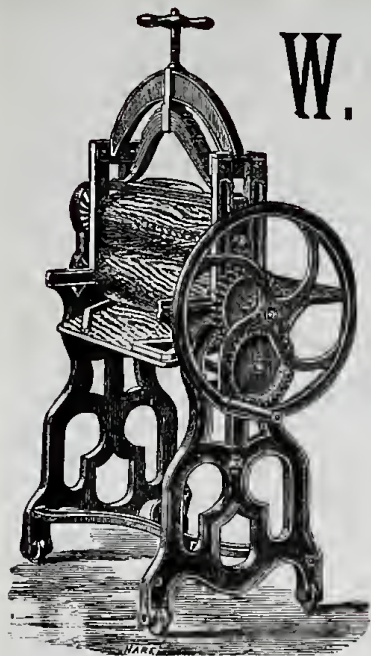


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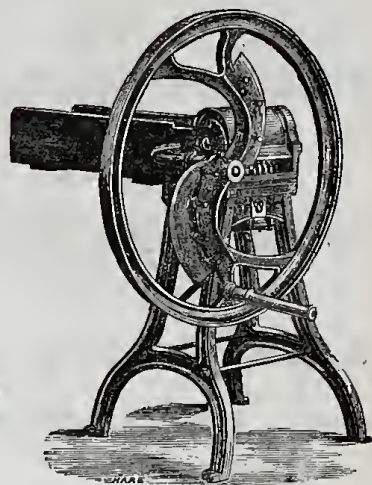


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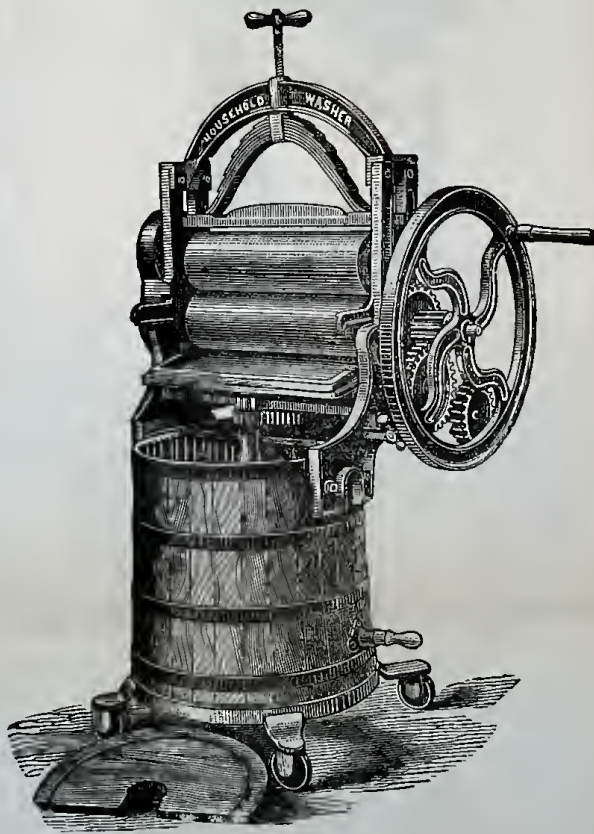
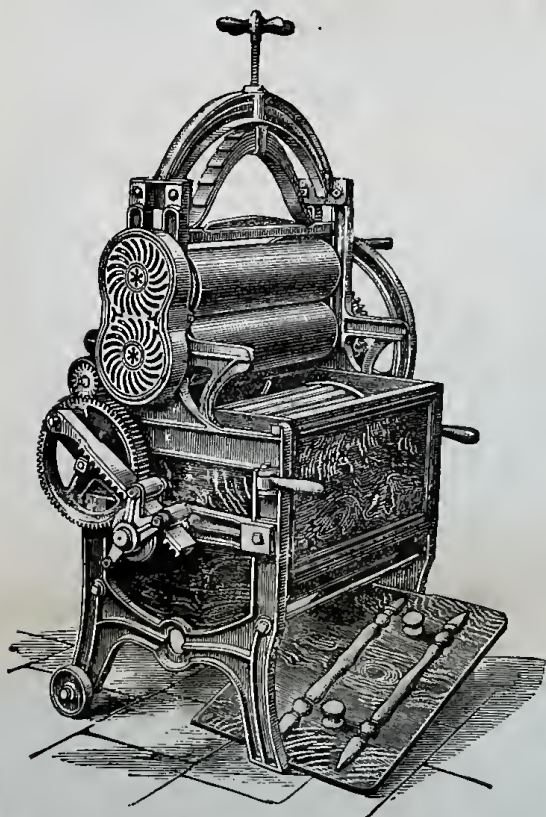
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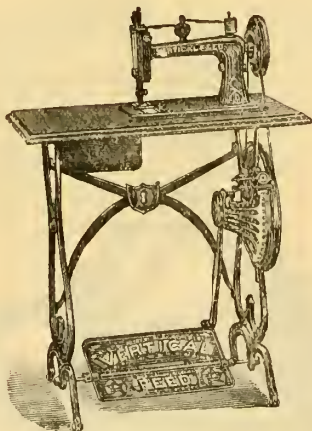
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**WANZERA** £4 4s. Hand Lockstitch Sewing Machine, in box, complete, quite new. Price £3 cash.—H. L. ENGLAND, Castle Lodge, Taunton.

**SINGER** principle Sewing Machine, Medium. Cost £7 7s. two years ago; price 50s. Particulars of GOODYEAR, New Road, Spalding.

**A SEWING MACHINE**, for strong work, large size, in thorough good condition, works hand or treadle. Price £2 10s. or good exchange.—44, Ashwood, Longton, Staffordshire.

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**LOCKSTITCH MACHINE**, Queen, new, in case, dozen accessories. Price 37s. 6d. Deposit.—Ada, Dorchester Villa, Kingston, Surrey.

**K**ITTER, Automatic, rubber stand, extra cylinder. Sell whole or part.—16, Rectory Road, Canton, Cardiff.

**G**RISWOLD KNITTING MACHINE (small) wanted for cash, cheap.—Mrs. HOLLES, Quay, Waterford, Ireland.

**M**ACHINE NEEDLES.—Five-drawer cabinet, containing about 150 dozen, various sorts; price 15s. lot.—H., 3, St. Mary's Villas, Southboro', Surbiton.

**H**ARPER TWELVETREES' Villa Washer, good condition; cost £5 5s.; price 50s., or offers.—Wimpress, 9, Hewlett Road, Bow, London, E.

**B**RADFORD'S Washer, Wringer, and Mangler, 26-in. rollers, brass capped, Vowel A E, all sound; cost £9 9s.; price £3 10s.—80, Hanover Street, Hanley.

**H**ANDSOME single round back Perambulator, bicycle wheels, apron, and canopy, by Johnson, New Oxford Street, in thorough repair; cost 48s. 6d., sell 25s. Can be seen—C. H., 28, Budge Row, Cannon Street, City.

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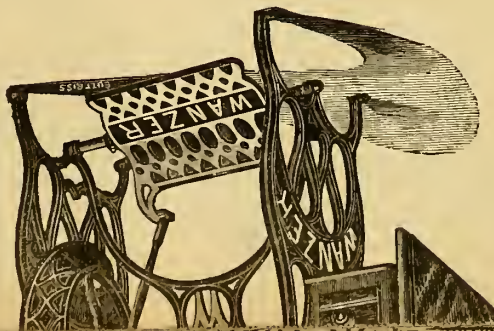
**S**ITUATION Wanted as Manager of Sewing Depot. Age 38 years, having had twenty years' experience among sewing machines. Repairing and salesman, canvassing, &c. No objection to going abroad.—Apply to W. WALKER, Holbeck Station, near Leeds.

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promised us their assistance when we have proved that we deserve it. What precise measure of proof or of merit is required we know not, nor indeed do we think it worth while to stop to enquire. We have compiled and arranged our programme and mean to conscientiously carry it out. By so doing we shall probably offend the few, but we shall certainly please the many, and, as usual, the majority must be studied in preference to the minority. Our pages will ever be open to descriptions of novelties of interest, or of old-established articles, which we think might, with advantage, be pushed in our particular trades. Our notices will be fair and impartial, as complete as possible, and as fully illustrated as the enterprise of the inventors or manufacturers permits. In no case can payment be accepted for a notice, but, as a rule, we expect the proprietor of the article reviewed to provide his own "blocks" for illustrations. In our opinion the main object of a trade journal such as this should be to make known to its subscribers the merits of inventions and innovations, and to give its customers facilities for introducing to the notice of *their* customers, articles likely to suit them. Our programme, if we are able to carry it out, will be such as to compel all go-ahead agents and factors to become subscribers, and we hope in every issue to give information worth the cost of many years' subscription. In this number, for instance, we give what is practically an illustrated guide, which we believe will be found well worth filing for future reference. At the same time we do not regard this issue as a standard attained, but only as a stepping-stone to something very considerably better.

We regard the present time as a very opportune one for an improvement in the trade journal for sewing and kindred machines. For a long period the sewing machine trade has been more or less under a cloud. Now there is an increased activity all along the line. One firm only a few days since received an order for 1,000 machines, and a not much smaller demand a day or two previously. One of our leading firms is building a goliath factory north of the Tweed, another has just completed gigantic works





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EXHIBITIONS.**

In Competition with all the leading Machines.



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking, and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity, and in the greatest perfection of style. The shuttle holds a large amount of thread, and the bobbins are easily and evenly wound by means of an automatic bobbin winder which accompanies each machine.

Prospectuses, together with samples of work and every information, may be obtained at the offices of the Company,

**52, Queen Victoria Street, E.C.**

SOLE ADDRESS IN LONDON.

## SEWING MACHINES—IMPORT AND EXPORT.

**EMILE JAMES,**

190, Blecker Street, New York, U.S.A.,

Importer of European Special Machines; Exporter of American Sewing Machines and attachments of every description, and all kinds of American Goods. Sole Agent for the Exports of different Companies.

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## MISCELLANEOUS ADVERTISEMENTS

Prepaid Advertisements under this head are inserted at a charge of 2s., when not exceeding four lines; subsequent lines 6d. per line. Subscribers' advertisements half price.

**HIRE CARDS**, One Shilling per dozen, post free. Office of SEWING MACHINE GAZETTE, St. Paul's Buildings, Paternoster Row, E.C. N.B.—These cards are superior to those hitherto supplied, and are bound with cloth so as to avoid being torn in use. The vendor's name printed on the front page at a nominal extra charge.

**THE NEW WHITE HAND MACHINE**, silver plated, latest improvements, perfect working order, extras, nice machine box, brand new; cost £4 10s.; cash £2 10s.; approval. —T. CHENHALL, Tavistock.

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**WANZERA** £4 4s. Hand Lockstitch Sewing Machine, in box, complete, quite new. Price £3 cash.—H. L. ENGLAND, Castle Lodge, Taunton.

**SINGER** principle Sewing Machine, Medium. Cost £7 7s. two years ago; price 50s. Particulars of GOODYEAR, New Road, Spalding.

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**GOOD** Lockstitch Sewing Machine, perfect, with sundries. Lately cost £4; cash 35s., bargain.—R. EMERY, Walthamstow.

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**LOCKSTITCH MACHINE**, Queen, new, in case, dozen accessories. Price 37s. 6d. Deposit.—Ada, Dorchester Villa, Kingston, Surrey.

**HAND** Silent Sewing Machine (Wilcox and Gibbs), silver plated, and same as new, warranted splendid worker, not automatic. Price 50s. only.—A. J., Kelley's Library, Gray's Inn.

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**TREADLE SEWING MACHINE** (Grover & Bakers). Cost £8; sell for £2.—HENDERSON, Harcourt House, Harrow.

**AUTOMATIC MACHINE**, Wanted (Wilcox & Gibbs) exchange hall stove.—TANNERY, Penketh, Warrington.

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**AMERICAN KILTER**, new. Cost one guinea; what offers?—H., 32, Bywater Street, King's Road, Chelsea.







**K** NITTER, Automatic, rubber stand, extra cylinder. Sell whole or part.—16, Rectory Road, Canton, Cardiff.

**G** RISWOLD KNITTING MACHINE (small) wanted for cash, cheap.—Mrs. HOLLES, Quay, Waterford, Ireland.

**M**ACHINE NEEDLES.—Five-drawer cabinet, containing about 150 dozen, various sorts; price 15s. lot.—H., 3, St. Mary's Villas, Southboro', Surbiton.

**H** ARPER TWELVETREES' Villa Washer, good condition; cost £5 5s.; price 50s., or offers.—Wimpress, 9, Hewlett Road, Bow, London, E.

**B** RADFORD'S Washer, Wringer, and Mangler, 26-in. rollers, brass capped, Vowel A E, all sound; cost £9 9s.; price £3 10s.—80, Hanover Street, Hanley.

**H** ANDSOME single round back Perambulator, bicycle wheels, apron, and canopy, by Johnson, New Oxford Street, in thorough repair; cost 48s. 6d., sell 25s. Can be seen—C. H., 28, Budge Row, Cannon Street, City.

**F** OR DISPOSAL.—A prosperous and lucrative Sewing Machine Business, in a beautiful locality twenty miles from London. May be worked with small capital.—For particulars, apply to H. R. BUTCHER, 30, Queen Street, Maidenhead.

**L**ONDON, N.W.—For disposal, an old-established and thoroughly genuine Decorator's and General Jobbing Business, doing a return of over £4,000 per annum; rent of commanding premises, including workshops, £69 per annum; valuation £450; every investigation afforded an intending purchaser; satisfactory reason for disposal.—HENRY BOURN, 182, Upper Thames Street, E.C.

**A** GENTS Wanted, to push first-class Machinery Oils, commanding a large and successful sale; liberal commission. Box 322, Post Office, Liverpool.

**M**ANAGER or TRAVELLER; 14 years' general experience; aged 30; accustomed to country travelling; good references.—H. BOSCOMBE, Salisbury.

**T**RAVELLER required by Richard Evered & Co., Limited, to call on Gasfitters, Plumbers, Bellhangers, Engineers, &c., in London and suburbs; a gentleman of good experience and a thorough knowledge of the trade required.—Apply by letter, stating age, experience, and salary required, to Mr. R. B. EVERED, 28, Drury Lane, W.C.

**S**ITUATION Wanted as Manager of Sewing Depot. Age 38 years, having had twenty years' experience among sewing machines. Repairing and salesman, canvassing, &c. No objection to going abroad.—Apply to W. WALKER, Holbeck Station, near Leeds.

**F**RETWORK PATTERNS.—Fifty full sized fretwork patterns, good designs, brackets, wheelbarrows, &c. Price 9d.—Dixon, 18, Clyde Road, Redland, Bristol.

**W**AREHOUSE to Let as a whole or in flats; rent £300; very light; about 1,000 square feet each floor; situate near Ropemaker and Chiswell Streets; lately rebuilt and newly decorated.—Apply, E. & Co., office of this paper.

*It is particularly requested that all communications relating to the "Journal of Domestic Appliances and Sewing Machine Gazette" may be addressed to the Proprietor, Mr. FRANK ALLNUTT, St. Paul's Buildings, Paternoster Row, London, E.C., and that all Cheques may be made payable to him, and crossed "London and County Bank."*

## The Sewing Machine Gazette.

NOVEMBER 1st, 1884.

### The Trade and its Journal.

**W**E have succeeded this month in producing a number which we consider more in accordance with the importance of the trades which we represent than have been its immediate predecessors. Not that we are conceited enough to imagine that we have attained perfection, or that we shall ever do so, but we have made up our minds to do more than command success—to deserve it. We have received the co-operation of many leading houses in the production of this number, and many others have

promised us their assistance when we have proved that we deserve it. What precise measure of proof or of merit is required we know not, nor indeed do we think it worth while to stop to enquire. We have compiled and arranged our programme and mean to conscientiously carry it out. By so doing we shall probably offend the few, but we shall certainly please the many, and, as usual, the majority must be studied in preference to the minority. Our pages will ever be open to descriptions of novelties of interest, or of old-established articles, which we think might, with advantage, be pushed in our particular trades. Our notices will be fair and impartial, as complete as possible, and as fully illustrated as the enterprise of the inventors or manufacturers permits. In no case can payment be accepted for a notice, but, as a rule, we expect the proprietor of the article reviewed to provide his own "blocks" for illustrations. In our opinion the main object of a trade journal such as this should be to make known to its subscribers the merits of inventions and innovations, and to give its customers facilities for introducing to the notice of *their* customers, articles likely to suit them. Our programme, if we are able to carry it out, will be such as to compel all go-ahead agents and factors to become subscribers, and we hope in every issue to give information worth the cost of many years' subscription. In this number, for instance, we give what is practically an illustrated guide, which we believe will be found well worth filing for future reference. At the same time we do not regard this issue as a standard attained, but only as a stepping-stone to something very considerably better.

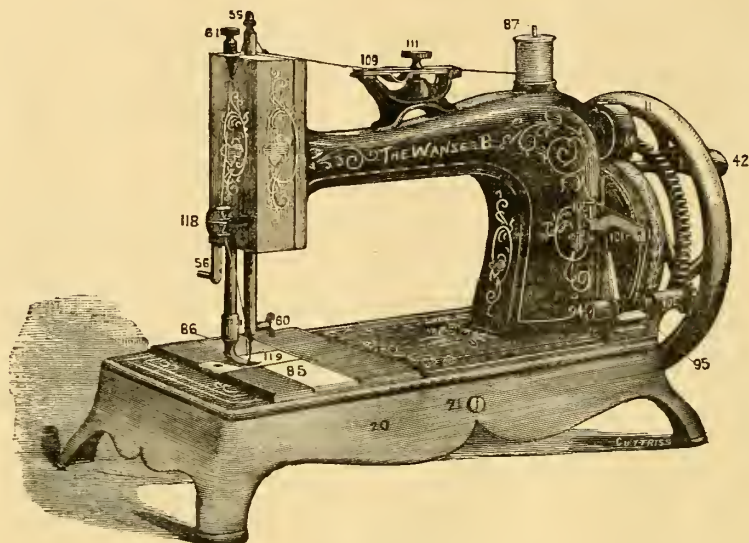
We regard the present time as a very opportune one for an improvement in the trade journal for sewing and kindred machines. For a long period the sewing machine trade has been more or less under a cloud. Now there is an increased activity all along the line. One firm only a few days since received an order for 1,000 machines, and a not much smaller demand a day or two previously. One of our leading firms is building a goliath factory north of the Tweed, another has just completed gigantic works on the other side of the herring pond, while all the great firms are really on the *qui vive*, and mean business. We welcome the activity, which we hope will continue. We are not afraid of foreign competitors, or jealous of foreign success, while in the nineteenth century we imagine few doubt the advantages of free trade. But we confess to a sneaking fondness for the old country, and while glad to hear of success in any quarter, are the more gratified when our own countrymen come in for a fair share of the spoil. That the British market is worth the trouble of cultivating is shown by the efforts of American houses to secure a share of it, efforts which are creditable to those who make them, and the success of which demonstrates clearly the fact that English agents and the English public know how to appreciate ingenuity, enterprise, and excellence, the three weapons with which our Yankee friends deal such heavy and such telling blows.

### The New Wanzer Sewing Machine. (ILLUSTRATED.)

**A**S INTIMATED in our last, we have now much pleasure in calling attention to the Wanzer Company's new machine, "Wanzer B," which we are informed by Mr. Fricker, the European manager, is the first machine turned out at the Company's magnificent new factory, Hamilton, Ontario, referred to in another part of the present issue.

The machine, as set up to work by foot, is entirely without gears, and works from a triple-action motion named an "ECCENTAGON," which has been registered as a trade-mark by the Company. The word is derived from the Latin—*eccentricus* (out of the centre), with the Greek terminal *agon* (having corners and sides). This





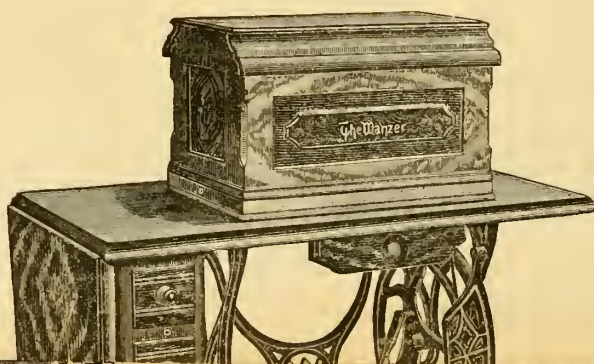
exactly describes the new patented motion, and it is claimed that the slack wear can be taken up, after many years running, by the simple tightening of a screw; and as all the wearing parts are steel-case-hardened, it would appear that the machine has the very best qualities for lengthened wear. Of the merits of this ECCENTAGON we can speak with confidence. We most carefully examined it as an entirely new feature or appliance in sewing machine work. It is light, of easy motion, and perfectly noiseless. We tried hard to hear any sound while it was at work, but were unable to succeed.

The mechanism for filling the bobbin (94 in our illustration) is a splendid arrangement. The bobbin is filled automatically, and the action continues until it is quite full, the upward pressure giving an uniform tension, and so enabling the thread to be wound firmly and evenly, thereby securing accurate sewing. Practically this is an important point, and is always a material consideration with sewing machinists, because if the tension is too tight the thread snaps, whilst, on the other hand, if it is too loose the stitches "grin."

The balance wheel (11) is, of course, nickel-plated, and runs loose when filling the bobbin. There is also an

ingenious arrangement by which the leather belt is taken up automatically by the driving wheel when the machine is on a stand worked by pedal. Most ladies know that when the leather belt is removed for oiling the machine, or other purposes, trouble often occurs before it can be properly replaced. All this is avoided by the new Wanzer. The driving wheel very cleverly takes up the strap itself, when the operator desires it to do so.

The cabinet work of this machine is very elegant and all built up of several thicknesses of wood formed from veneers having their respective grain running in diverse directions. Being so prepared, the wood can neither warp nor split. It is indeed a desideratum accomplished by costly and extensive machinery at the Wanzer Company's new factory, the logs of wood being cut up into veneers and rolled up like so much carpeting, after which it is glued and pressed together in layers until strong and thick enough. We predict for this new Wanzer machine, which is noteworthy for its simplicity, ease, quietness, durability, and rapidity, a permanent place amongst sewing machines of the first class, and are glad to herald its introduction. This firm have just obtained the highest award at the Healtheries (a gold medal).



## The New Orleans Exhibition.

IT appears that sewing machines and domestic appliances will figure largely at the forthcoming World's Fair at New Orleans. Not only will American manufacturers exhibit, but some British houses are determined to show that England enjoys a reputation for excellence in respect to sewing machines. Messrs. Bradbury and Co., of Oldham, the eminent English manufacturers, will have a large stand. Their machine is now largely exported to America, and has obtained great popularity during the past four years in America. The main building for the Exhibition is now practically finished, and all the other structures are in a forward state. The Mexican buildings are to be constructed of iron, wood, and glass, and will be specially attractive. We also hear that some German houses will be well represented, amongst which will be Rosenberg & Frankel, of Berlin; Carl Schmidt, of Bielefeld; H. Koch & Cie; and Serdel & Naumann, of Dresden.

## Sewing Machine Exhibition in Germany

(By OUR HANOVER CORRESPONDENT.)

AT the exhibition of German sewing machines, which was opened on Sept. 27th by the chief president, V. Leipziger, there were several progresses in the German sewing machine manufacture to be noticed. According to the *Rhenish Westphalian Gazette*, the firm Hengstenberg, of Bielefeld, has shown the most important improvements. Their machine, which draws the under thread direct from the reel, does not require a winder, and works most excellently; it has also the advantage that the upper thread is preserved more than with other machines, and that the machine works considerably quicker. This invention will contribute to supplant foreign makers from the German market, and to obtain a great success abroad.

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WE have of late heard encouraging reports of the amount of business done, or orders booked, at the South Kensington Health Exhibition, but during the past fortnight there has been an increase of orders which in many instances will require many months to complete. During a "last look round" which we made some of the exhibitors went so far as to say that they were glad that the exhibition was closing. It had been a grand success, orders had to be executed, and a little "rest" in the show department would be acceptable.

The Sewing Machine Department was very busy when we last visited it. At the

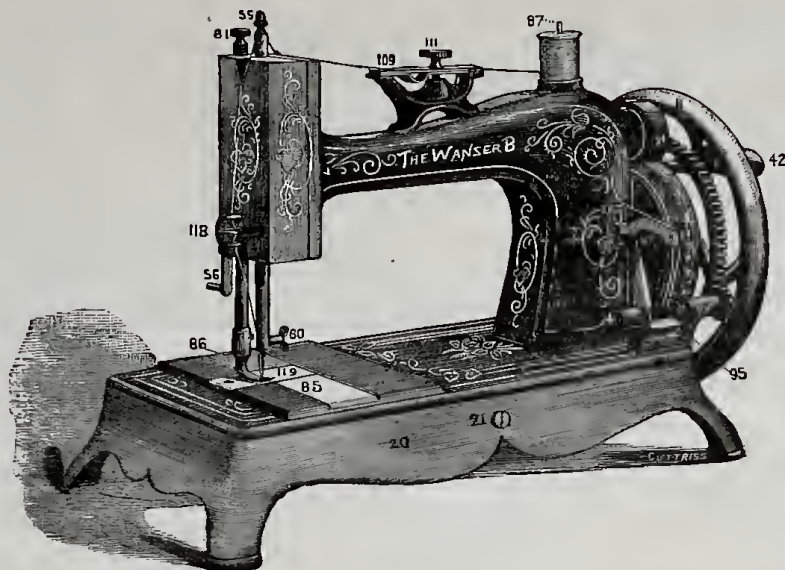
### SINGER MANUFACTURING COMPANY'S

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The screw works, which are marvels of mechanical Company to complete 1,500 machines per week. scientific principles, and at such a rate as to enable the in this department by the application of the most machine are ready. Everything indeed is accomplished magnificently finished tables or covers for the Wanzel and after passing from one process to another the removing dust and refuse, which are carried into a flue, sent in this section, having an ingenious method for The planing and drawing machinery are also represented, closed or opened by doors. large enclosed tunnel having openings into the upper desired, up to any of the floors above by means of a whereby the heat which is here generated is carried, if works, possesses several thousand feet of steam pipes, in any house, which is located in the upper part of the building, and is carried up to any of the floors above by means of a large enclosed tunnel having openings into the upper stories, closed or opened by doors.

were at work in Germany. Mr. Brinton also calls was that in the course of a year 30 of these machines want!" They made rough drawings, and the result these two German gentlemen say, "This is just what we of the power looms carpet machines an operative heard took special notes of all they saw. Standing before one gathering, two Germans came with the company and for inspection of gentlemen connected with a science At his works, for instance, when they were thrown open inasmuch as foreigners have the opportunity of copying. Kiddermister, states that the display of inventive processes by English manufacturers is often a disadvantage, John Brinton, M.P., who is a large manufacturer at space they will require. In reply to this application Mr. a large number of manufacturers asking them what at the authorities at South Kensington have written to





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*Le Machine à Coudre* says: "According to a report in the *Hannoversche Tageblatt*, it seems that the sewing machine exhibitions which, under the leadership of Mr. A. Best, c.s., is now being held in Odeon at Hanover, meets with a well merited success. This journal says a. o. 'The managers may pride themselves on their work, which in solidity of execution and in tastefulness of the arrangements must make the most agreeable impression upon the visitors. A special charm are the daily concerts, etc. The following gentlemen have kindly consented to take upon themselves the duties of a jury in judging the merits of the exhibited objects, although happily there are no premiums to be adjudged. They are: Professor Fisscher, Engineer Sonnemann and Docent Müller. We gather from the same source that the real point of attraction in this trades exhibition is a double stitch sewing machine (Ex Gloriosa) which has solved a problem hitherto unattainable.

This machine, which future we regard with somewhat more optimism than the Hanover newspaper, sews the under thread direct from the reel; but there is one thing forgotten to be mentioned, i.e., that these reels must have a distinct and fixed form so that the cotton has to be wound over, or specially made reels have to be used

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At the large stand of Messrs.

### WHEELER AND WILSON

—the largest in this department—we found them booking orders. Their No. 10 machine is one of standard excellence, and during the whole period which the exhibition has been open has won great attention. We always were of opinion that its motions are evenly balanced, and as the parts are light a very high speed is obtained. The ingenuity of its construction, it having neither cogs nor shuttle, has made it a source of attraction and comment. We were glad to see the European manager at the stand.

It was some time before we could get near the stand of the

### WHITE SEWING MACHINE,

and Miss Roberts had more than she could do to speak to several persons at one time. As an easy, noiseless, and light running machine the "White" has obtained great popularity in the London district. To our own knowledge the sales have been very large. What seemed so attractive at this stand was the very elegant embroidery shown. This won the eyes of every lady, and often created a *furor* of excitement. When we first saw the White machine we regarded it as the *ne plus ultra* of invention, and speaking candidly, if we



were asked by a lady what machine she ought to buy for her own use, we should have difficulty in naming one superior to the "White."

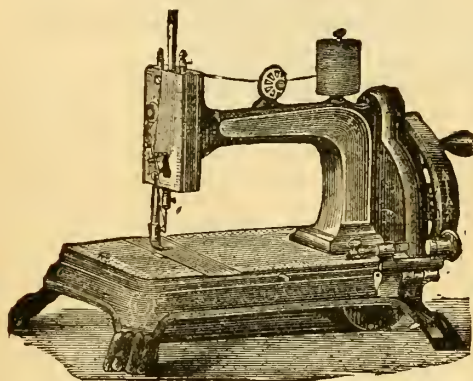
#### THE VERTICAL FEED

Sewing Machine work was a pretty display. Much commendation is due to the ladies who work them, as their taste in the combination of colours and the arrangement of pattern are points of excellence of which we have before had to speak.

We marvel that Messrs.

#### WILCOX AND GIBBS

have not exhibited at the Health Exhibition. The principle of their machine is so different to all others, whilst the stitching shows no "grin," and is so desirable for speedy work, that we should like to have seen this House—one of the oldest—exhibiting together with others this year.



The Nelson Sewing Machine.

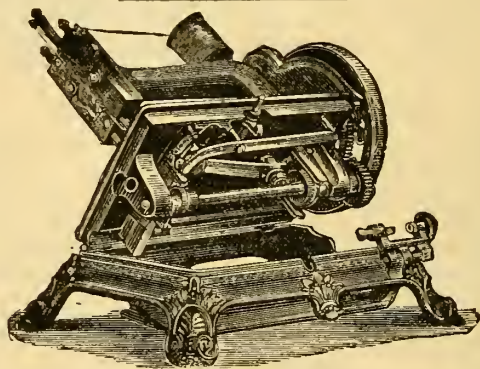
(ILLUSTRATED.)

WE have inspected one of these machines, which are manufactured by the American Sewing Machine Company. It has many features to recommend it as a cheap useful machine, handsome in appearance, and we should say well manufactured and likely to last well. It is fitted with the firm's new patent automatic winder, and can be worked either by hand or treadles. We give two illustrations of this machine, and an inspection of these will enable the reader to see the justice of the special claim made in respect to it, that it requires no taking to pieces for the purpose of cleaning. It is claimed for this machine that special care is taken in manufacturing every part, and in the adjustment; and stress is laid upon the fact that it is fitted with a patent loose wheel, by means of which the bobbins can be wound without setting the other parts of the machine in motion, thereby saving much unnecessary friction. Having taken the trouble to test the machine at work, we are able to say that it sews, quilts, hems, braids, and binds in a very satisfactory manner. Last but not least, the proprietors of the "Nelson" issue a very readable and well prepared book of directions.

### South Kensington Exhibition, 1885.

THE International Health Exhibition at South Kensington is to be followed by another on a different scale next year, and, it may also be stated, of a widely different character. It appears from a letter in the *Times*

attention to a letter which appeared in a local paper, written by Messrs. Milward, of Redditch, the eminent needle manufacturers, in which they remark that they should take a space in the Exhibition of 1885, because they could not be absent; but the exhibition of their apparatus would not be altogether an advantage, as for a shilling any foreigner could inspect all that was exhibited. These remarks remind us of a conversation we heard at the Cotton and Textile Exhibition, at the Agricultural Hall last summer. It was rumoured that two or three Germans were in the building. The intelligence was conveyed by the manager of Messrs. Willcox and Gibbs in our hearing, and instantly a machine of novel construction close by was stopped and covered up. Of course there is at times some disadvantage, but it is not all loss. Manufacturers are obliged to exhibit because they cannot do without publicity. We cannot, therefore, approve of the letter to the *Times* which the eminent manufacturer at Kidderminster has written.



THE NELSON SEWING MACHINE.

### The New Wanzer Sewing Machine Works.

THE continued increasing popularity of the Wanzer Sewing Machine, which is extensively exported to the Colonies, and by the recommendation of the Board of National Education for Ireland used in 7,500 schools, has recently compelled the Company to erect superior constructing machinery and larger warehouses at Hamilton, Ontario, some particulars of which we have just obtained from the European Manager, at 4, Great Portland-street, Oxford Circus, London.

The buildings were formally opened by Mr. R. M. Wanzer, who was knighted by the Emperor of Austria, and is the only sewing machine manufacturer in the British Empire who has received such high distinction. There were also present on the occasion a large number of manufacturers and gentlemen connected with all branches of the sewing machine industry.

Considerable interest was first shown in the inspection of the raw material and the process it undergoes in the department outside the new buildings, where the huge logs of wood are worked into position from the steam vats by machinery from the main building. After thus being conveyed into the wood-working section, these logs are cut into veneer and removed in rolls like so much carpeting, and are afterwards glued and pressed together by powerful machinery. A composition wood is thus obtained, consisting of several layers, whose grain runs in opposite directions, and therefore is exceedingly suitable for table tops.

The machinery, which is located in this division of the

genius, adjoin the wood department, and are so arranged that all stock in hand undergoing the process of manufacture moves westward, thus meeting the wood works, which have a reversed course. Much advantage appears to be obtained by this arrangement, as each department adjoins another to which it is most closely allied.

To furnish power for the Wanzer Sewing Machine Works, a 350-horse power engine is required. The main shaft is nearly 400-ft. in length, and extends through the building, which is 360 by 60-ft. besides a right angle cut of 30-ft., which connects directly with the engine room.

There is also a metal factory having miles and miles of belting and shifting pulleys. The nickel-plating and manufacture of small castings is carried on in the fourth floor, and near by are the testing rooms, where all parts of the Wanzer machine are examined and adjusted. This is a busy department, and requires the employment of a large number of experienced men.

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The chimney of the works is the largest in Ontario. It contains more than 250,000 bricks. There are 250 windows in the building containing 3,116 panes of glass. The screw works have 10,000 feet of shafting.

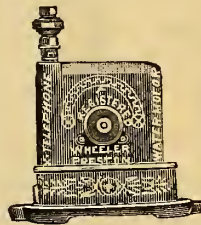
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having the Swivel Water Motor secured to the table—

small consumption of water, the smallness of the jets, the facility of starting, the absence of dead centres, and last, but not least, its great cheapness. Small illustrations are given of the same article, which will tend to explain its working more fully.

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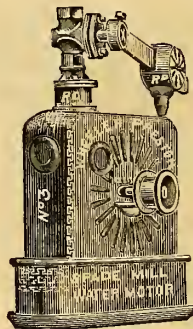


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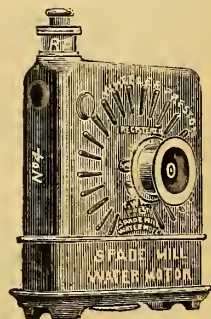
MOTORS FOR DRIVING SEWING AND OTHER MACHINES.

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Machine Factories as well as for hay-cutting machines,



have taken the liberty of testing some of the testimonials for authentic without first making a few enquiries. We order a large supply. We do not, as a rule, care much for testimonials, let alone that of those they employ, promptly our factories, and we are confident that any firm who it is next door to cruelty to enforce treadmill labour in tained in this way at an almost nominal price, we think regulated by the foot, and now that power can be obtained by the Motor is exceedingly useful. The speed can be easily machine, it is hardly necessary to say that the Water anything requiring power. As applied to the sewing window advertisements, ventilating fans, and in fact and that they will drive sewing machines, lathes, shop can be worked by a Swivel Water Motor secured to the table—



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were asked by a lady what machine she ought to buy for her own use, we should have difficulty in naming one superior to the "White."

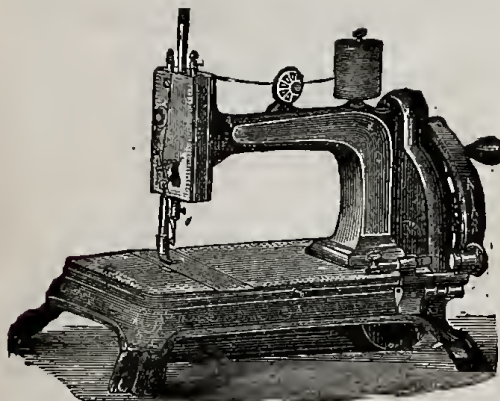
#### THE VERTICAL FEED

Sewing Machine work was a pretty display. Much commendation is due to the ladies who work them, as their taste in the combination of colours and the arrangement of pattern are points of excellence of which we have before had to speak.

We marvel that Messrs.

#### WILCOX AND GIBBS

have not exhibited at the Health Exhibition. The principle of their machine is so different to all others, whilst the stitching shows no "grin," and is so desirable for speedy work, that we should like to have seen this House—one of the oldest—exhibiting together with others this year.



The Nelson Sewing Machine.

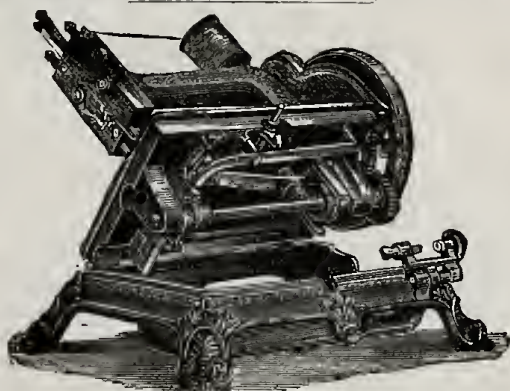
(ILLUSTRATED.)

WE have inspected one of these machines, which are manufactured by the American Sewing Machine Company. It has many features to recommend it as a cheap useful machine, handsome in appearance, and we should say well manufactured and likely to last well. It is fitted with the firm's new patent automatic winder, and can be worked either by hand or treadles. We give two illustrations of this machine, and an inspection of these will enable the reader to see the justice of the special claim made in respect to it, that it requires no taking to pieces for the purpose of cleaning. It is claimed for this machine that special care is taken in manufacturing every part, and in the adjustment; and stress is laid upon the fact that it is fitted with a patent loose wheel, by means of which the bobbins can be wound without setting the other parts of the machine in motion, thereby saving much unnecessary friction. Having taken the trouble to test the machine at work, we are able to say that it sews, quilts, hems, braids, and binds in a very satisfactory manner. Last but not least, the proprietors of the "Nelson" issue a very readable and well prepared book of directions.

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THE International Health Exhibition at South Kensington is to be followed by another on a different scale next year, and, it may also be stated, of a widely different character. It appears from a letter in the *Times* that the authorities at South Kensington have written to a large number of manufacturers asking them what space they will require. In reply to this application Mr. John Brinton, M.P., who is a large manufacturer at Kidderminster, states that the display of inventive processes by English manufacturers is often a disadvantage, inasmuch as foreigners have the opportunity of copying. At his works, for instance, when they were thrown open for inspection of gentlemen connected with a science gathering, two Germans came with the company and took special notes of all they saw. Standing before one of the power looms carpet machines an operative heard these two German gentlemen say, "This is just what we want!" They made rough drawings, and the result was that in the course of a year 30 of these machines were at work in Germany. Mr. Brinton also calls

attention to a letter which appeared in a local paper, written by Messrs. Milward, of Redditch, the eminent needle manufacturers, in which they remark that they should take a space in the Exhibition of 1885, because they could not be absent; but the exhibition of their apparatus would not be altogether an advantage, as for a shilling any foreigner could inspect all that was exhibited. These remarks remind us of a conversation we heard at the Cotton and Textile Exhibition, at the Agricultural Hall last summer. It was rumoured that two or three Germans were in the building. The intelligence was conveyed by the manager of Messrs. Willcox and Gibbs in our hearing, and instantly a machine of novel construction close by was stopped and covered up. Of course there is at times some disadvantage, but it is not all loss. Manufacturers are obliged to exhibit because they cannot do without publicity. We cannot, therefore, approve of the letter to the *Times* which the eminent manufacturer at Kidderminster has written.



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The dry house, which is located in this division of the works, possesses several thousand feet of steam pipes, whereby the heat which is here generated is carried, if desired, up to any of the floors above by means of a large enclosed funnel having openings into the upper storeys, closed or opened by doors.

The planeing and drawing machinery are also represented in this section, having an ingenious method for removing dust and refuse, which are carried into a flue, and after passing from one process to another the magnificently finished tables or covers for the Wanzer machine are ready. Everything indeed is accomplished in this department by the application of the most scientific principles, and at such a rate as to enable the Company to complete 1,500 machines per week.

The screw works, which are marvels of mechanical







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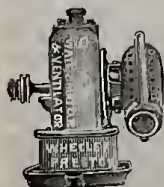
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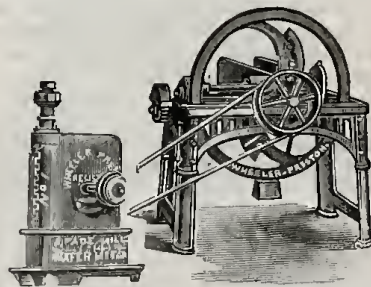


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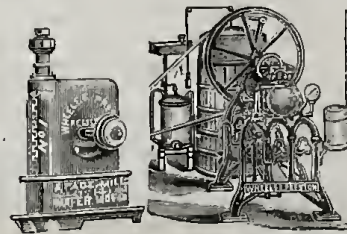
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Machine Factories as well as for hay-cutting machines,



WATER MOTOR driving Hay Cutter direct by Strap.

printing works, &c., while another illustration shows how the Motor can be applied to a Soda Water Machine



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direct by belt. It is important to note that these Motors can be worked by  $\frac{1}{2}$ -in. diameter house water supply pipes, and that they will drive sewing machines, lathes, shop window advertisements, ventilating fans, and in fact anything requiring power. As applied to the sewing machine, it is hardly necessary to say that the Water Motor is exceedingly useful. The speed can be easily regulated by the foot, and now that power can be obtained in this way at an almost nominal price, we think it is next door to cruelty to enforce treadmill labour in our factories, and we are confident that any firm who will give Mr. Wheeler's speciality a trial will for their own sakes, let alone that of those they employ, promptly order a large supply. We do not, as a rule, care much for testimonials, and we never take printed ones as authentic without first making a few enquiries. We have taken the liberty of testing some of the testimonials



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THE American Institute Fair was formally opened at the end of September, and for more than two months it will be the centre of attraction for many of the good people of New York. Hon. Abraham S. Hewitt was the orator of the occasion. His Honour the Mayor was to have opened the exhibition, but, owing to press of city business, he was compelled to forego the pleasure, and consequently the honour devolved upon Mr. Hewitt.

All of the arches are gorgeously decorated with Chinese sunshades and umbrellas, giving the idea that somebody must have struck a bonanza; nevertheless, it presents a very bright and charming view as one enters from the main hall.

To the Electric Motion Sewing Machine Company belongs the honour of being the only sewing machine company that was in apple-pie-order on the opening night, and they are to be complimented, as it is just as easy to be ready on the opening day, as it is a week or two later.

The sewing machine exhibits are, as usual, on the left side of the main hall as one enters the building, and the first to notice is that of the

### AVERY MANUFACTURING CO.,

who occupy alcove No. 6. This exhibit is under the charge of Mr. C. T. Barber, formerly with the Wheeler and Wilson Company of East 14th street. Mr. Avery is almost a nightly visitor, as he is very much interested in his new pet, the high arm Avery. Miss Cadmus, also formerly with the Wheeler & Wilson Company, is one of the ladies who attends to the exhibit; the other lady's name we did not learn.

This enclosure is surrounded by a black walnut moulding on the top of a railing composed of sewing machine frames, which is very *apropos* for this class of exhibits. The floor is covered with a bright velvet carpet, and the sides festooned with imported creton, and held in place by ebony cornice poles. Two small and one easy chair in brocade velvet, with four bentwood chairs, afford a seat for the exhibitors and their friends. On one side is a tall ebony pier glass with a marble base, on which stands a very pretty vase of elegant artificial flowers. Two very pretty signs in gold lettering adorn either side of the exhibit. Two or three very fine card baskets are crammed full of "Averys." Eight machines are shown, one of them a full cabinet, and one neatly decorated in pearl.

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ELECTRIC MOTION SEWING MACHINE EXHIBIT.

just as pretty as the first. The next exhibit is a child's dress in satin marveleaux, embroidered in delicate silk figures of forget-me-nots, and was executed with the aid of the Empress embroiderer. Another pretty exhibit is a wax doll of apparently about eighteen months, but is not subjected to the embraces nor the osculatory exercises of either H. B. Creighton or Joe Monroe. An infant's dress and baby carriage afghan, together with two children's dresses in bias tucking and puffing of net lace, complete the contents of this case.

Four machines are shown, one an elegant polished maple cabinet, the machine being finished in gold and nickel, and is a perfect beauty, and should be seen and examined to be appreciated.

This exhibit illustrates the ideas of Mr. P. S. Baylor the general manager, and Mrs. May Stuart, his "right hand man," and the marked attention which the exhibits receive prove that in ideas they are just correct and perfect. The mechanical devices in this machine are something new, and many stop to examine it on that point alone. Mrs. M. Hartell also assists Mrs. Stuart in this cosy little exhibit. To our mind, it is the most attractive sewing machine exhibit that has been seen there for years.

The next alcove, No. 8, is to be occupied by Madam Suplee, when she gets around to it; but at the present moment nothing is seen but empty space.

### WARD'S PATENT TREADLE

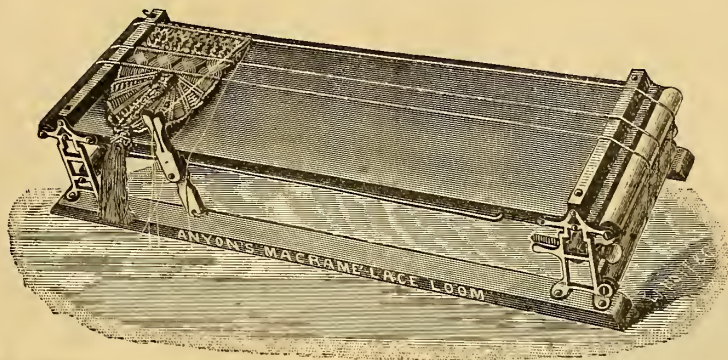
occupies the adjoining space, being in charge of Mr. R. W. Lundy and Mrs. W. J. Smith. Very often Mr. Garvie puts in an appearance to help matters along. This alcove is No. 9. On either side is a large creton panel bordered with a broad band in plush red. The idea is good, something different from the rest, and very effective, and we believe it was the idea of Mrs. Smith. Whether her idea or not, she put the idea into execution. On the floor is a pepper-and-salt Brussels carpet. As for chairs, they are not parlour chairs, but something like a school boy's high stool, which, by the way, are used in connection with the treadle. The space will be enclosed by a railing simply, in order to leave "seeing room" for those who wish to examine the operation of the treadle. Three machines—Household, Domestic, and the New Home—are furnished with these treadles at this exhibit.

A large work table with six different sewing machines will soon be at work showing practical work, under the charge of Mrs. Hafner, a down-town manufacturer. When all is completed, this exhibit will show a lively bee-hive, and as the treadle is well thought of by the manufacturers who have used them, it will, no doubt, attract much attention.

The Colton water motor, exhibited by Mr. Rufus Chandler, occupies alcove No. 18, and is at the extreme end of what used to be called "Sewing Machine Row."

This exhibit goes in for solid facts more than it does for the beautiful. For railing, it has one formed of gas pipes, painted black, and no carpet on the floor nor fancy creton trimmings. One large motor sets in the middle of the space—being as big around as a barrel. An electric motion sewing machine is being run by one of these motors placed in an ordinary wash stand basin. Other motors will be arranged around the sides and tables, similar in appearance to a cluster of telegraph wires. When the exhibit is in thorough order it will doubtless attract much attention by users of sewing machines.

NEW BUTTON-HOLE MACHINE.—Just before going to



### The Macramé Lace Loom.

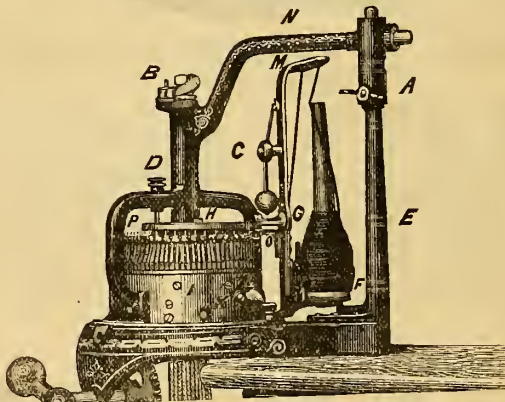
(ILLUSTRATED.)

**M**ACRAMÉ Lace Making has become so popular among ladies fond of fancy work that new patterns are eagerly sought. The making of this handsome lace has been attended, however, by many drawbacks. The knotting is very painful to delicate fingers. Though at every stage, pins were used to hold down the strands, the completed work was anything but satisfactory. Here it was drawn too tightly, there its slackness detracted sadly from its beauty. The Solomon's knots were spoiled by having the cord split and frayed through the necessity of sticking pins through it. But these difficulties and disappointments are now at an end. The Anyon Macramé Lace Loom Company have invented and patented a beautiful contrivance. Not only is it complete for the purpose for which it is intended, but, also it is finished in the first style, and is an article which would not disgrace any drawing room. It is well designed, of walnut-wood, highly polished and neatly finished. The loom measures 28 inches by 10 inches. It has supports by which it may be raised or lowered to any angle. It is fitted with rollers by means of which the work is tightened or slackened at will, and moved on as it progresses. The top is a polished plane, across which the foundation threads are stretched. Three yards of lace can be stretched on this loom at a time. but of course...

### Automatic Knitting Machine.

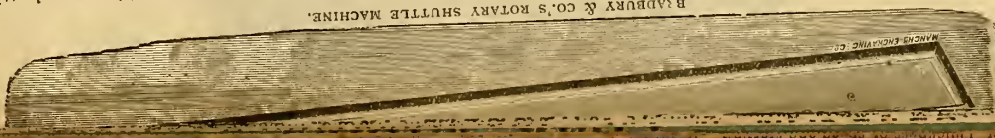
(ILLUSTRATED.)

**WE** give an illustration of a very excellent machine manufactured by the Patent Automatic Knitting Machine Company, Limited, of Oxford Street, with branches at Islington, Liverpool, and Glasgow. The Automatic little Rapid Knitting Machine is fitted with a ribbing attachment, and does all kinds of work, and will knit cotton or silk with far more regularity and much greater speed than can be attained by hand knitting.



of the greatest possible importance. This machine is made in a smaller size for domestic work on exactly the same principle and is being sold extensively. It is certainly taking a front place, and the Bradbury Co. are selling these rotary machines much faster than they can produce them. We have had the pleasure to examine this machine at Messrs. Bradbury's and in this factory, at Oldham, there are mechanicians men who have pushed to the front in every walk of life, Lancashire has reason to be proud of many able men—perfect a machine with the much desired rotary motion. with the skilled mechanics at its head, to complete and success. It has rested with this Lancashire firm, and machine on this principle, but with very indifferent friends have made innumerable attempts to bring out a produce a Rotary Shuttle Machine, and obstacles have presented themselves with great persistence. Our Yankee have done away entirely with the untwisting of the thread—no matter what make of thread—and the fact is a spring on the centre pin. With this new shuttle they

BRADBURY & CO.'S ROTARY SHUTTLE MACHINE.





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### WARD'S PATENT TREADLE

occupies the adjoining space, being in charge of Mr. R. W. Lundy and Mrs. W. J. Smith. Very often Mr. Garvie puts in an appearance to help matters along. This alcove is No. 9. On either side is a large creton panel bordered with a broad band in plush red. The idea is good, something different from the rest, and very effective, and we believe it was the idea of Mrs. Smith. Whether her idea or not, she put the idea into execution. On the floor is a pepper-and-salt Brussels carpet. As for chairs, they are not parlour chairs, but something like a school boy's high stool, which, by the way, are used in connection with the treadle. The space will be enclosed by a railing simply, in order to leave "seeing room" for those who wish to examine the operation of the treadle. Three machines—Household, Domestic, and the New Home—are furnished with these treadles at this exhibit.

A large work table with six different sewing machines will soon be at work showing practical work, under the charge of Mrs. Hafner, a down-town manufacturer. When all is completed, this exhibit will show a lively bee-hive, and as the treadle is well thought of by the manufacturers who have used them, it will, no doubt, attract much attention.

The Colton water motor, exhibited by Mr. Rufus Chandler, occupies alcove No. 18, and is at the extreme end of what used to be called "Sewing Machine Row."

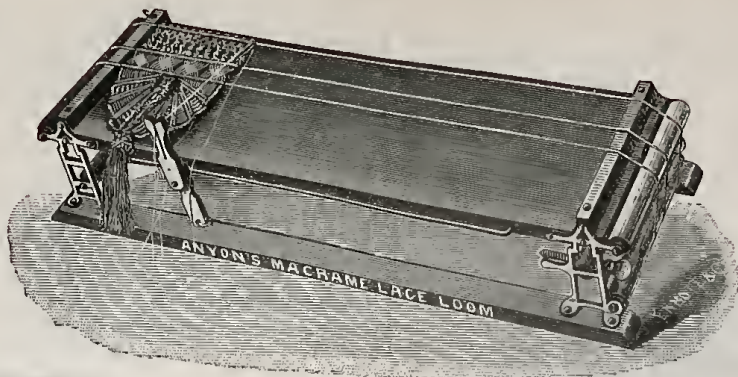
This exhibit goes in for solid facts more than it does for the beautiful. For railing, it has one formed of gas pipes, painted black, and no carpet on the floor nor fancy creton trimmings. One large motor sets in the middle of the space—being as big around as a barrel. An electric motion sewing machine is being run by one of these motors placed in an ordinary wash stand basin. Other motors will be arranged around the sides and tables, similar in appearance to a cluster of telegraph wires. When the exhibit is in thorough order it will doubtless attract much attention by users of sewing machines.

**NEW BUTTON-HOLE MACHINE.**—Just before going to the exhibition, we were informed by Messrs. Waterhouse, of the Waterhouse Sewing Machine Company, and that they will drive sewing machines, lathes, shop window advertisements, ventilating fans, and in fact anything requiring power. As applied to the sewing machine, it is hardly necessary to say that the Water Motor is exceedingly useful. The speed can be easily regulated by the foot, and now that power can be obtained in this way at an almost nominal price, we think it is next door to cruelty to enforce treadmill labour in our factories, and we are confident that any firm who will give Mr. Wheeler's speciality a trial will for their own sakes, let alone that of those they employ, promptly order a large supply. We do not, as a rule, care much for testimonials, and we never take printed ones as authentic without first making a few enquiries. We have taken the liberty of testing some of the testimonials









## The Macrame Lace Loom.

(ILLUSTRATED.)

**M**ACRAME Lace Making has become so popular among ladies fond of fancy work that new patterns are eagerly sought. The making of this handsome lace has been attended, however, by many drawbacks. The knotting is very painful to delicate fingers. Though at every stage, pins were used to hold down the strands, the completed work was anything but satisfactory. Here it was drawn too tightly, there its slackness detracted sadly from its beauty. The Solomon's knots were spoiled by having the cord split and frayed through the necessity of sticking pins through it. But these difficulties and disappointments are now at an end. The Anyon Macramé Lace Loom Company have invented and patented a beautiful contrivance. Not only is it complete for the purpose for which it is intended, but, also it is finished in the first style, and is an article which would not disgrace any drawing room. It is well designed, of walnut-wood, highly polished and neatly finished. The loom measures 28 inches by 10 inches. It has supports by which it may be raised or lowered to any angle. It is fitted with rollers by means of which the work is tightened or slackened at will, and moved on as it progresses. The top is a polished plane, across which the foundation threads are stretched. Three yards of lace can be stretched on this loom at a time, but of course any length can be worked by leaving the foundation threads hanging at the end. The special recommendations of this loom are: that the work cannot be crushed, being tightly stretched throughout the whole time of working; there is no hurting the hands or fingers when knotting the strands; and the regularity of the work is perfect—every strand and knot being uniform. Another special feature is a little contrivance for working the Solomon's knot. All who have ever made this lace are aware of the difficulty experienced at this stage. With the loom there is no trouble. The contrivance is a piece of wood, which can be turned up or down at will, fitted into a groove along which it is moved to whatever part of the board it is desired to be. The centre strands are drawn over the top of it and held firmly while the worker proceeds with her knot. No cushion or pins are required in any part of the work. In order to meet the demands of the public Mr. Anyon has revised his prices, which are now very low. Of course no sewing machine depot or agency can be considered complete without a stock of these wonderful and rapidly becoming popular machines.

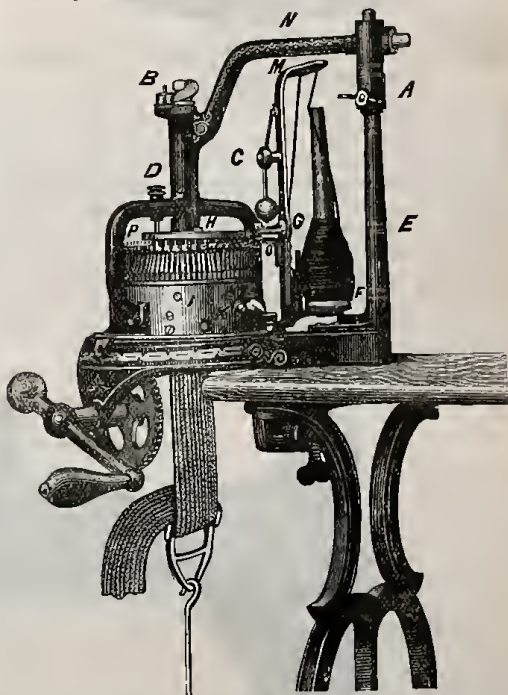


ANYON'S MACRAME TENSION FRAME.

## Automatic Knitting Machine.

(ILLUSTRATED.)

**WE** give an illustration of a very excellent machine manufactured by the Patent Automatic Knitting Machine Company, Limited, of Oxford Street, with branches at Islington, Liverpool, and Glasgow. The Automatic little Rapid Knitting Machine is fitted with a ribbing attachment, and does all kinds of work, and will knit cotton or silk with far more regularity and much greater speed than can be attained by hand knitting.



THE AUTOMATIC KNITTING MACHINE.

Instructions are given to show how a pair of ribbed socks can be knitted in considerably less than an hour. Lessons are given when required by purchasers, but the instructions are so simple that we consider them quite superfluous. The machine is thoroughly fitted in every respect, and supplied with every necessary accessories, and when required a counter is added for registering the number of rows as they are being knitted. This addition is a most ingenious contrivance, and a great convenience



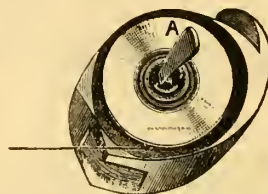
when at work. We have seen socks, stockings, and other articles knitted by the Automatic, and are surprised at the regularity of the work, its strength, and neatness. The Company supply these machines on a very equitable hire system, and make exceedingly liberal terms with the trade in connection with this feature. We hope those of our subscribers who have not already done so, will place themselves in communication with the firm with a view to opening out an agency and pushing the machine.



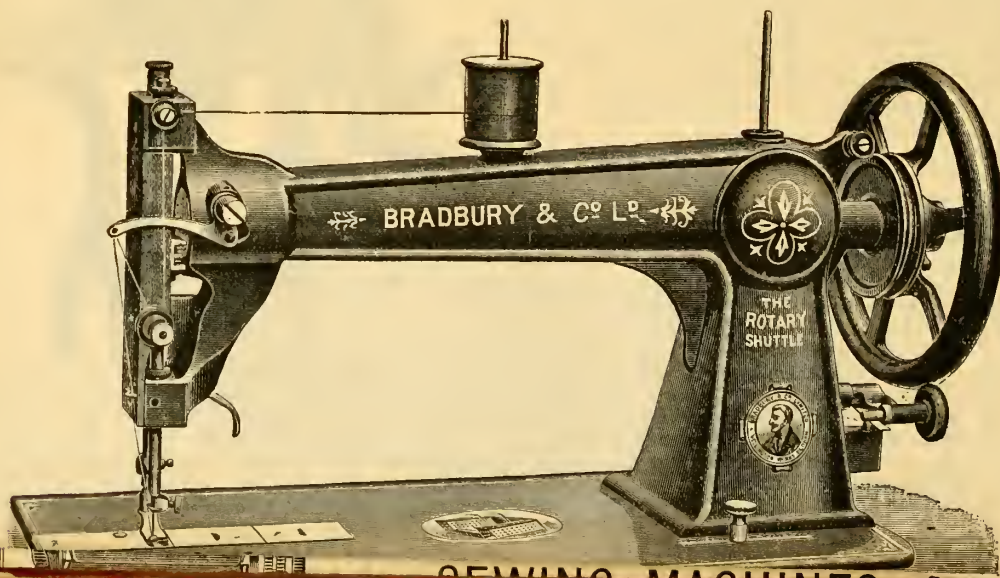
### Bradbury & Co., Limited, Oldham, Lancashire.

**T**HIS FIRM, which claim to be the largest and oldest European makers, certainly deserve a few words at our hands. They have always shown such enterprise in the way of taking up the newest improvements and designs in machines for every class of work that comes within the range of sewing machines, that it is a pleasure to us to be in a position to give our readers some details regarding their latest triumph, the ROTARY SHUTTLE Machine. There have been many attempts to

who by steady and persistent labour and thought have built up a reputation for the "Bradbury" Co. which is second to none in the kingdom, and by perfecting this Rotary Shuttle Machine, which by its action is capable of being driven at such an extraordinary rate of speed, they have caused quite a revolution in the factories where they have been introduced. Operators who are able to get through twenty-five per cent. more work in a day, and still keep the quality of their work at the highest standard, naturally welcome the machine with unusual heartiness. To proceed to the details of the article under notice, our readers will observe by the illustration we present herewith, an illustration, by the bye, of the Company's largest size machine for tailoring, corset making, and every description of heavy work. The arm, as will be seen, is unusually large, the reason for which



is obvious. By an ingenious device which Messrs. B. have patented, the needlebar is made hollow, thereby rendering the motion easier and retaining to the full its penetrating power. The presserbar and needlebar are made of the finest steel, and being "packed," enable the machine to be lubricated for any length of time, obviating as in other systems constant oiling. The brass bushes are so fixed that the user can take up any slight wear that may have occurred, so that the needlebar by this arrangement will actually last a life time. The shuttle, which is cut out of solid cast steel, and working in a solid turned box lubricating itself is extremely large, and the reel will hold a marvellous quantity of thread, from 80 to 100 yards being easily wound on the self-acting winder with which the machine is fitted. There is no threading *whatever* to the shuttle, the thread coming direct off the reel: the tenison being regulated by



City Office in Newgate-street, and the Company's manager, Mr. James A. Jackson, tells us they are now doing a large trade with the factories and agents in and near London with it. They recently sent in 50 of these No. 4 Rotaries to a firm of tent makers to the War Department, and the tents are by this time sheltering our soldiers on the Nile Expedition. Clothing and stay manufacturers are also going in largely for the Rotary shuttle, large orders having been received in all parts of the country.

The company, as our readers well know, also make family, medium, and hand machines in immense quantities, an extensive shipping trade being done from the Newgate-street office, where inspection of the various machines is cordially invited. The company have been of late busy making and selling the new "Rotary treadle," invented by an American gentleman, Mr Barclay Ward. This treadle works on the principle of a tricycle, and is very well spoken of in sewing machine circles. As pressure on our space this month prevents our going fully into the details and merits of this last novelty, we defer a description of it to our next issue.

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FACTORY—132, CLAPHAM ROAD.

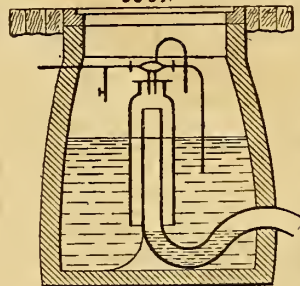
132, Clapham Road.

82, BRIXTON ROAD.

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8091. AUTOMATIC FLUSHING TANK.—May 22nd, 1884.  
Frederick Cuntz, of Karlsbad, Bohemia, engineer.

8091.



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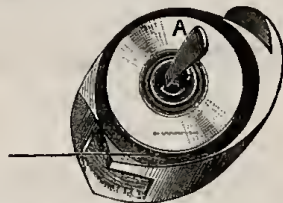
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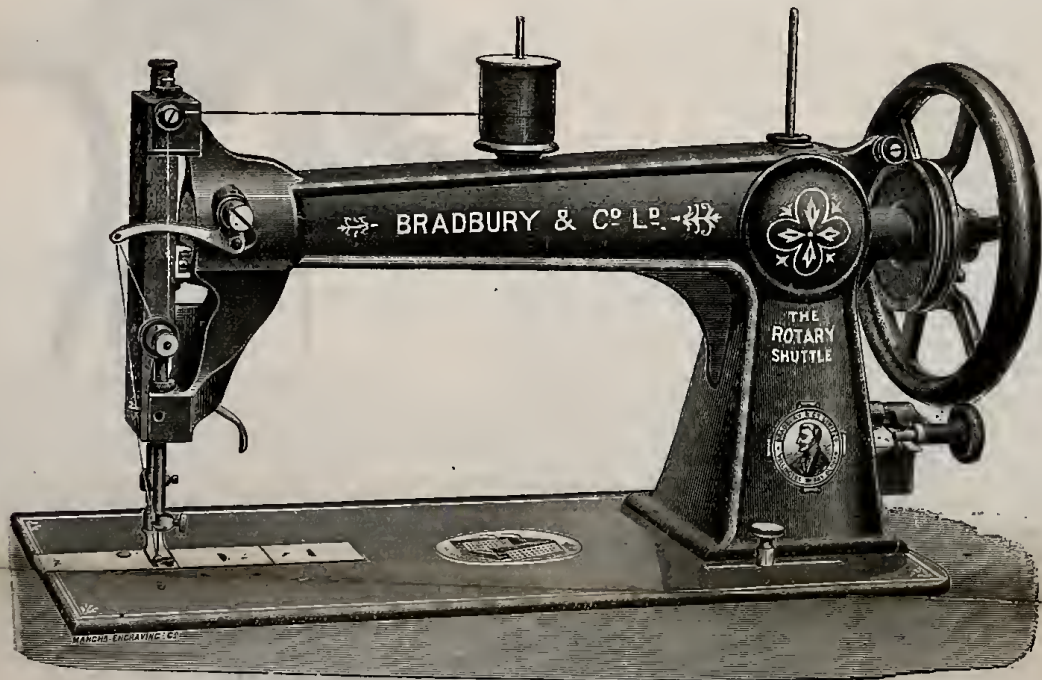
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BRADBURY & CO.'S ROTARY SHUTTLE MACHINE.

produce a Rotary Shuttle Machine, and obstacles have presented themselves with great persistence. Our Yankee friends have made innumerable attempts to bring out a machine on this principle, but with very indifferent success. It has rested with this Lancashire firm, and with the skilled mechanics at its head, to complete and perfect a machine with the much desired rotary motion. Lancashire has reason to be proud of many able men—men who have pushed to the front in every walk of life, and in this factory, at Oldham, there are mechanics

a spring on the centre pin. With this new shuttle they have done away entirely with the untwisting of the thread—no matter what make of thread—and the fact is of the greatest possible importance.

This machine is made in a smaller size for domestic work on exactly the same principle and is being sold extensively. It is certainly taking a front place, and the Bradbury Co. are selling these rotary machines much faster than they can produce them. We have had the pleasure to examine this machine at Messrs. Bradbury's







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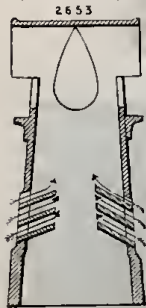
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2653. IMPROVEMENTS IN CHIMNEY TOPS. — (February 4th, 1884.)—Chas. Henry Riley, builder, Huddersfield.



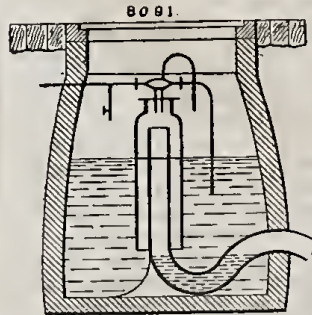
The special object of this invention is to construct chimney tops so as to increase the draft of the chimney or flue, prevent down-draft and ventilate the room; this is effected by forming openings in the sides of the chimney top, near to the bottom thereof. In connection with these openings are inclined flanges or ribs projecting within the chimney top, whereby the flue is contracted at this particular part, making the area thereof less than the area of the outlet on the top. The openings formed in the sides of the chimney top will induce and create a draft therein, causing rapid circulation of air, whilst the contracted part caused by the inclined flanges materially assists in preventing down-draft or smoke, and ventilating the room. To facilitate the sweeping of these chimney pots less difficult slits are formed in each corner of the flanges so as to allow of a chimney sweeper's brush to pass up and down freely. Chimney pots constructed as above described may be made of earthenware, metal, or of other suitable material, and may be square, round, or of other shape adapted to the purpose specified.—*Martineau's Journal*.

7366. **FERRIS AND STRAW ELEVATORS.**—(May 7th, 1884.) Edwin Roberts and Henry Roberts, of Deanshanger Ironworks, Northamptonshire, engineers and iron-founders.

An essential object of this invention is to prevent the drum or winding gear of an elevator from being overwound, thereby avoiding breakage of the machine and

danger to the attendants when folding, unfolding, and raising the elevator. Upon the pole-wheel of the elevator are placed two catches, on lugs, and upon the first motion shaft, on which the handle is placed, a disc wheel is fixed having two catches reverse to each other. There is also provided a suitable double-ended catch, resting on a spring, which is adjusted to keep the catch in a normal and central position, and consequently clear of the projections on the drum previously referred to, excepting when otherwise required. In the act of folding the elevator, when the handle has been turned sufficiently in the one direction, the lug cast on the periphery of the pole-wheel comes in contact with the double-ended catch, pressing it down and causing the long end to rise and engage itself with the catch, or with one of the two catches formed on the inner part of the disc wheel; when the handle is turned in the other direction sufficient to unfold the elevator, the same double-ended catch is then acted upon by two other lugs or projections cast the reverse way upon the pole and disc wheels respectively, and thus prevents the handle being turned further in that direction.—*Martineau's Journal*.

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### HITCHIN'S FIREPROOF PLASTER.

**A** LIMITED COMPANY has been established with a view of working Hitchin's Patent, which was granted in 1882, "for improvements in the construction of fire and sound proof ceilings and floors." The plaster is very suitable for stables, and, in fact, for all buildings, minimising the risk of fire and otherwise proving of advantage. After several public tests it has proved that the ceiling cannot be penetrated by fire, and it is far more durable than any other known ceiling. Although only one-third the weight of ordinary plastering it is three times as strong and durable, and very much cheaper than any other fire-proof construction. It is very easily laid, and it does not require to be left to dry as in the case of ordinary plasters. It will stand a large amount of weight without any danger, nor is a fall possible.

The *Building News*, the *Builder*, the *Architect*, the *Furniture Gazette*, the *Builders' Reporter*, and, in fact, almost every trade paper, as well as many of the daily and weekly organs, have testified to the value of this invention, and we cannot too highly recommend it for adoption. The capital of the Company is £50,000 in £1 shares, and as there is already a prosperous business being done, it offers a sound and *bona fide* investment, the value of which should not be overlooked. It is assumed that the dividend of at least 10 per cent. will be paid, and as the expenses are on a very small scale, and as the agreement with the inventor clearly establishes his belief in the solidity of the concern, we should think this expectation ought to be more than realised.



## Harris's Perambulator.

(ILLUSTRATED.)

XXX believe it will be admitted on all sides that the day is gone by for Sewing Machine Dealers to confine themselves entirely to that branch of the trade, and we know of no article which can be better introduced than that will command such a good sale, and share the same profits, as that of Perambulators. Although we may be late in the field in giving this information, considering the number of agents who have already added this article to their business, we are certain all will be pleased to know the name of a firm who are first class makers of their goods, which are made especially for the home trade. Material and workmanship in each article is guaranteed, and we should strongly advise that no time be lost in writing to W. J. Harris and Co., of Old Kent Road, London, for wholesale list, and procure a sample carriage. We have recently had an opportunity of going over the premises of this firm, and were highly pleased to note the variety and excellence of the stock, which it would be difficult to find excelled.

One of our German correspondents calls our special attention to a new style of woodwork and new pattern of the stand of Baer & Rempel's Phœnix Machine, of which we shall give illustrations in a subsequent issue. The Phœnix is made on the rotary hook principle, and is almost identical with the Wheeler and Wilson straight needle machine No. 8. This machine has won a great reputation on the continent during the last few years, owing to its rapidity, durability, and general working capacity. It is the favourite of manufacturers of corset, shirt work, and all kinds of garments. The Phœnix No. 3 is very richly decorated with mother-of-pearls, therefore suitable for family use; it is an ornament in any household. The firm of Baer and Rempel have been for years famous for their solid and tasty woodwork, and in fact the firm have no rival in this line. The extensive sewing machine works of the firm are situated at Bielefeld, in the province of Westphalia, Prussia. Their machines are exported to nearly all countries of the

Globe. Since its establishment in 1860, the firm have exclusively manufactured rotary hook machines, their oldest make, the celebrated "Silencieuse," has won quite a reputation all over the Globe. Since the introduction of the new straight needle machine, the firm have tripled its production. Principally the German sewing machine dealers have interested themselves very enthusiastically for the sale of this machine, as the prices of the older shuttle machines, principally Singer machines, have been reduced so much that the trade with these machines is not any more profitable.

PEARSON and Co.'s marvellous Newby machine (of which we give an illustration in another column) has been one of the great attractions working daily at the Health Exhibition. They are selling large numbers of the machines, which give great satisfaction, and sewing machine agents would do well to add them to their stock. The machine is now adapted to either gas, oil, or coal stoves, which may also be used to advantage for boiling and cooking. This machine has also been on exhibition at the Crystal Palace, where a silver medal has been awarded to it. Messrs. P. and Co. are also largely engaged in general domestic machinery, amongst which are notably a new Rubber Wringer, retailing at 12s. 6d., and a Knife Cleaner, selling at 3s. 6d.

### TO INVENTORS.

General Patent Office. Established 1830.

**G. F. REDFERN,**

LONDON: 4, SOUTH STREET, FINSBURY,

ALSO AT

PARIS AND BRUSSELS.

PROVISIONAL PROTECTION for 9 months under the new Act, £3 3s. To complete the Patent for 4 years, £7 7s. French Patent, including first year's tax, £7; Belgian Patent, £3; Imperial German Patent, £10 10s.; United States Patent, including all expenses for the whole term, £17 10s. Circular of information as to the mode of proceeding in applying for Letters Patent, cost of European Patents generally, and also of Colonial Patents, forwarded upon application. Trade Marks and Designs registered in England and Abroad.

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Factory for Repairing Machines of every make at Cheay Rates:



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PORTABLE ELECTRIC BELL, for Carriages, Broughams, &c., 30s. complete.

Large Bell, Push, 50 yards of Insulated Wire, and everything complete on receipt of 25s.

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Improved Patent Electric Gas Lighter, 21s., Carriage Paid.

This Lighter, having no battery or other means possible to the least derangement, is practically inexhaustible.

THE BEST GOODS ONLY. THE TRADE SUPPLIED.

Old Crank Bells replaced by Electric. No Removal of Carpet or slightest inconvenience.

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BRITISH AND FOREIGN

**MILNERS' SAFE COMPANY, LIMITED,**  
PHOENIX SAFE WORKS, LIVERPOOL,  
London: 28, Finsbury Pavement, City, E.C.; Manchester: 28, Market Street; Liverpool: 8, Lord Street.

*Milners' received a First Award at the Sydney Exhibition, 1880, a First Prize and Gold Medal at Melbourne 1881, and the Gold Medal at the Calcutta Exhibition, 1884.*

*The strongest, best, and cheapest safeguards in the world against fire and the modern burglar.*

*The well-known and well-proved articles of universal public approval and adoption, 200,000 of them keep the books and cash of Liverpool, Manchester, Glasgow, Bristol, Belfast, &c., with all the REAL IMPROVEMENTS resulting from the large experience and practical acquaintance with their business of the Inventors, who have manufactured more safes for the last twenty-five years than all the other Safe Makers together, have been publicly tested by scientific and practical men in all the large towns of the United Kingdom.*



## Harris's Perambulator.

(ILLUSTRATED.)

XXXE believe it will be admitted on all sides that the day is gone by for Sewing Machine Dealers to confine themselves entirely to that branch of the trade, and we know of no article which can be better introduced that will command such a good sale, and share the same profits, as that of Perambulators. Although we may be late in the field in giving this information, considering the number of agents who have already added this article to their business, we are certain all will be pleased to know the name of a firm who are first class makers of their goods, which are made especially for the home trade. Material and workmanship in each article is guaranteed, and we should strongly advise that no time be lost in writing to W. J. Harris and Co., of Old Kent Road, London, for wholesale list, and procure a sample carriage. We have recently had an opportunity of going over the premises of this firm, and were highly pleased to note the variety and excellence of the stock, which it would be difficult to find excelled.

One of our German correspondents calls our special attention to a new style of woodwork and new pattern of the stand of Baer & Rempel's Phoenix Machine, of which we shall give illustrations in a subsequent issue. The Phoenix is made on the rotary hook principle, and is almost identical with the Wheeler and Wilson straight needle machine No. 8. This machine has won a great reputation on the continent during the last few years, owing to its rapidity, durability, and general working capacity. It is the favourite of manufacturers of corset, shirt work, and all kinds of garments. The Phoenix No. 3 is very richly decorated with mother-of-pearls, therefore suitable for family use; it is an ornament in any household. The firm of Baer and Rempel have been for years famous for their solid and tasty woodwork, and in fact the firm have no rival in this line. The extensive sewing machine works of the firm are situated at Bielefeld, in the province of Westphalia, Prussia. Their machines are exported to nearly all countries of the

Globe. Since its establishment in 1860, the firm have exclusively manufactured rotary hook machines, their oldest make, the celebrated "Silencieuse," has won quite a reputation all over the Globe. Since the introduction of the new straight needle machine, the firm have tripled its production. Principally the German sewing machine dealers have interested themselves very enthusiastically for the sale of this machine, as the prices of the older shuttle machines, principally Singer machines, have been reduced so much that the trade with these machines is not any more profitable.

PEARSON and Co.'s marvellous Newby machine (of which we give an illustration in another column) has been one of the great attractions working daily at the Health Exhibition. They are selling large numbers of the machines, which give great satisfaction, and sewing machine agents would do well to add them to their stock. The machine is now adapted to either gas, oil, or coal stoves, which may also be used to advantage for boiling and cooking. This machine has also been on exhibition at the Crystal Palace, where a silver medal has been awarded to it. Messrs. P. and Co. are also largely engaged in general domestic machinery, amongst which are notably a new Rubber Wringer, retailing at 12s. 6d., and a Knife Cleaner, selling at 3s. 6d.

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General Patent Office. Established 1830.

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At 12 o'clock the pretty little door at the top of the clock flies open, when out pops the cuckoo, who cuckoos twelve times—as naturally as possible—bowing his head very gracefully at each note, in harmony and in answer to the gong; and he then gently slides back to his parlour, politely closing the door after him. This clever and surprising little performance is repeated at every *hour and half-hour*, and never fails, creating surprise to all who witness it, especially to those who have never possessed a cuckoo clock before.

*We guarantee these clocks to consist only of the very best material, being the very best quality that has ever been produced.*

People who have seen these already express their greatest surprise, more especially so when we tell them we shall shortly supply them at One Guinea each.

THE EXPLANATION of our ability to supply such a thoroughly good and usually expensive clock for so low a price is, our having cleared a large bankrupt stock from manufacturers abroad AT OVER 50 PER CENT, BELOW COST IN MERE PRODUCING, and by our decision to turn them out QUICKLY and IN QUANTITIES at the SMALLEST POSSIBLE PROFIT, bearing in mind that each order must undoubtedly lead to other orders for our goods, sooner or later. We warrant every clock sound and perfect, and assure our readers they scarcely ever get out of order; every one will be most securely packed before leaving our warehouse, and all clocks will be sent away same day as order received. They cannot fail to give entire satisfaction, and we shall only be too pleased to return money in full if not exactly as described.

When once sold out it will be an impossibility for us to supply the same clock at anything like the price. Customers, to prevent disappointment, will therefore please send their orders early.

Sixpence extra will be charged for Box and Packing (under cost price). Cheques crossed "National Provincial." P. O. Order payable at Birmingham.

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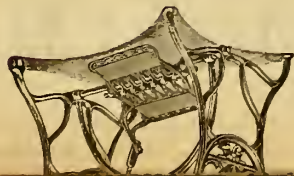
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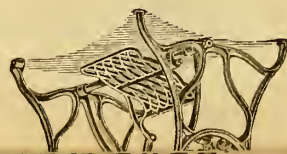
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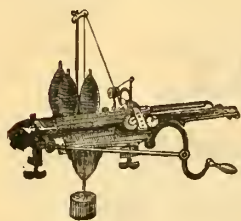
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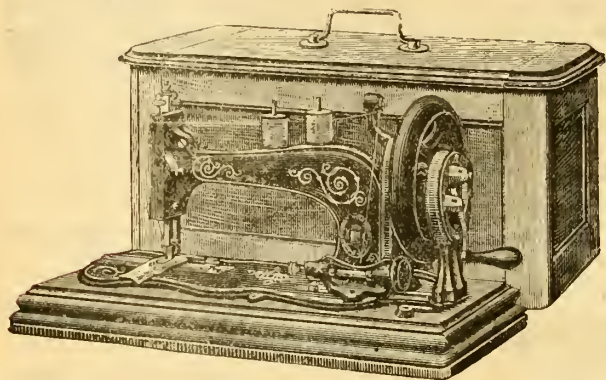
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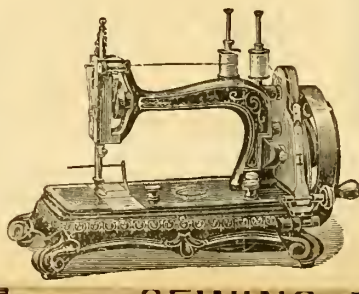


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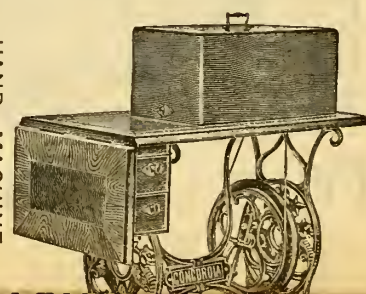
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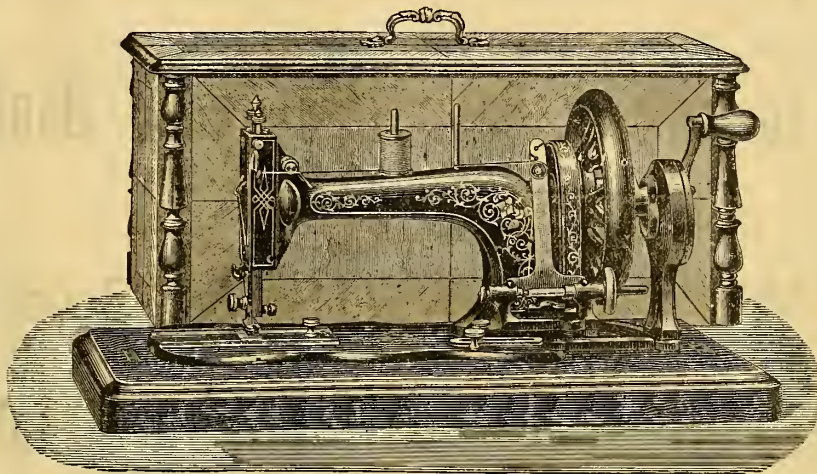
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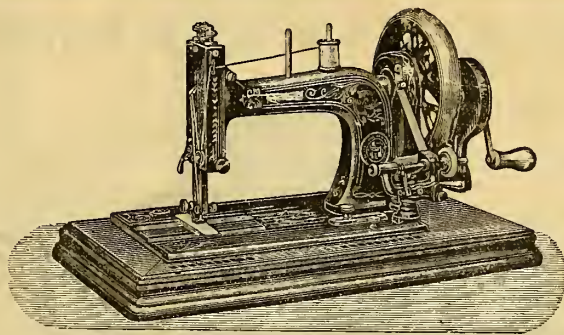
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- 9.—Princess
- 10.—Saxonia, on iron base
- 11.—Do. on wood base

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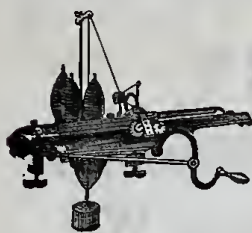
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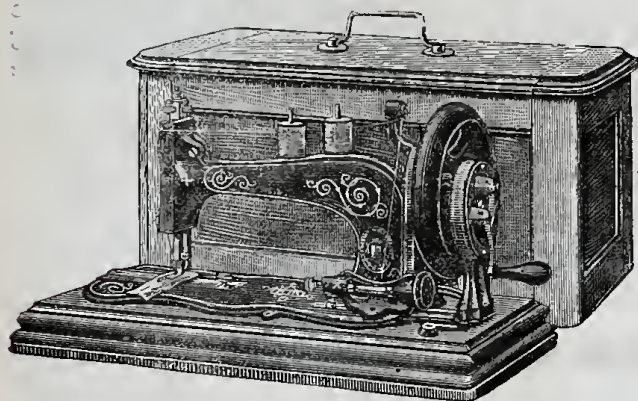
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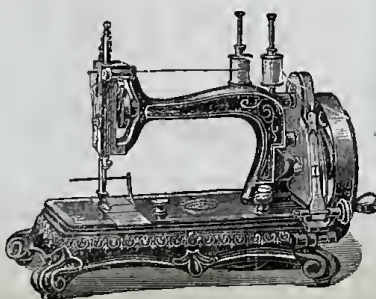


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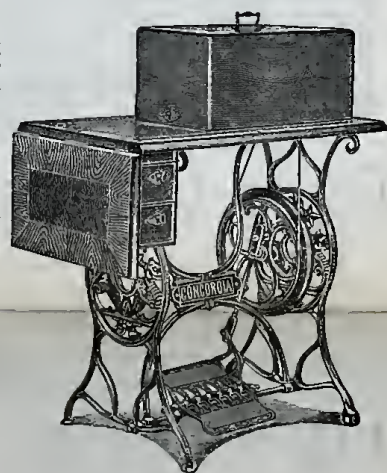


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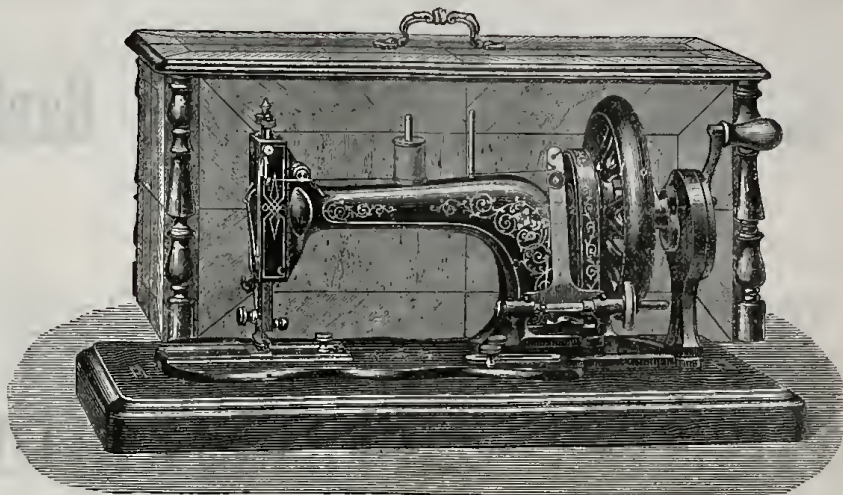




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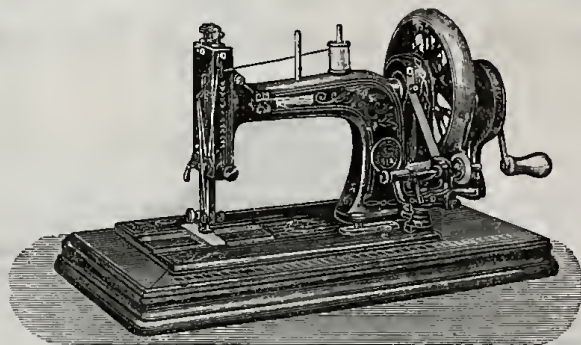


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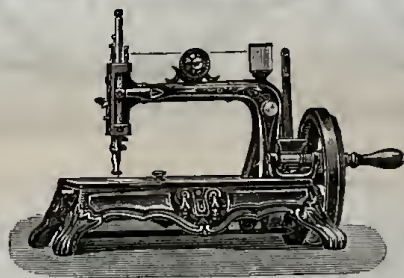
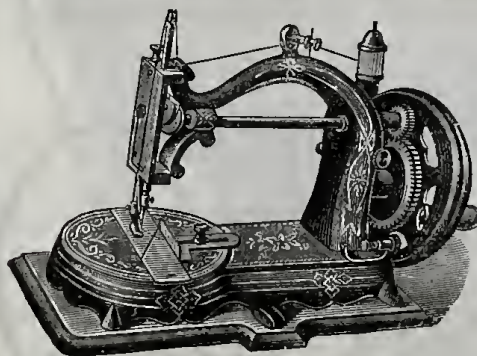
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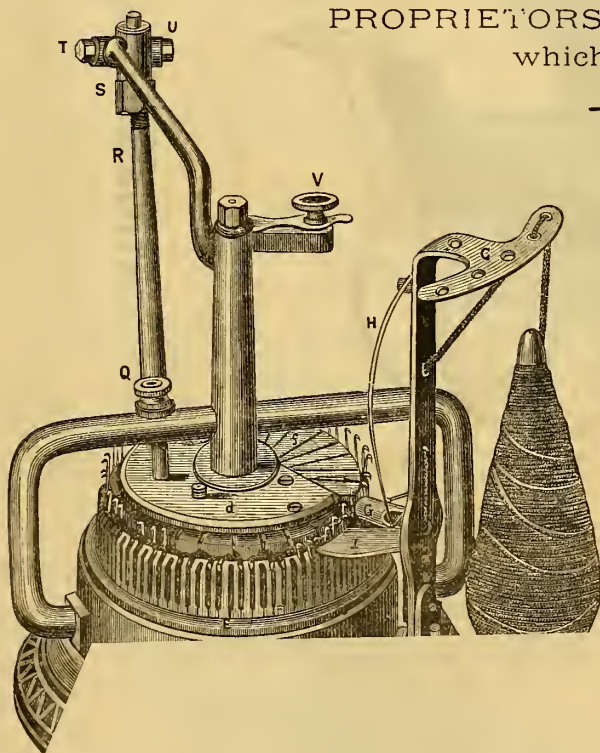


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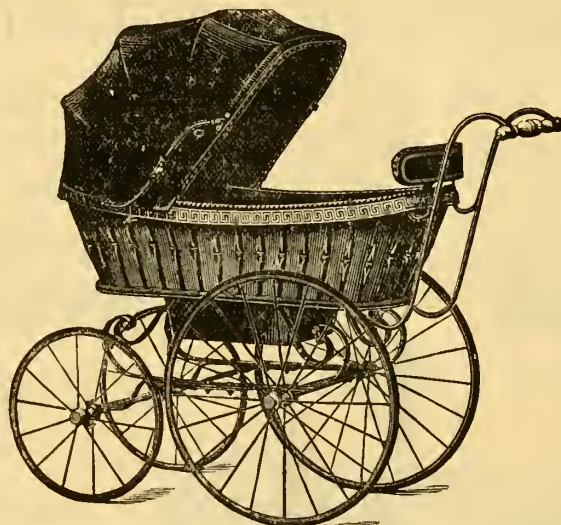
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Dr. BURTON, of 14, Spring Hill, Birmingham, in a letter to the *British Medical Journal*, June 2nd, 1883, says:—

"Last September I bought from the St. George's Foundry Company, Pope Street, Birmingham, one of their "Rapid" Tricycles. It is a double-speeded Machine, enabling one to ascend even steep hills with tolerable ease and at a fair speed. When speeded for ordinary roads it travels at the rate of a little over four yards for each revolution of the crank shaft, and when geared for hill climbing, at the rate of three yards for each such revolution. In going down inclines, it is thrown out of gear, the feet resting on the pedals, and the pace readily controlled by the brake. It is very strongly built, in proof of which I have had it out on all sorts of roads since September, and it works easier and is better now than when new.

"I can honestly recommend this Tricycle as serviceable, reliable, and economical. In this hilly town I can with its aid visit nearly as many patients in a given time as I formerly did with a good horse. But more than all, in spite of the continuously wet weather we have of late experienced, my general health has improved greatly by this exercise. For five years before I had it I suffered almost constantly from arthritic rheumatism and sciatica; since I have used it both these enemies have disappeared. For night work it is invaluable."



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DECEMBER 1st, 1884.

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4. PHOENIX HAND MACHINE. On iron or wooden base.
- La SILENCIEUSE, Curved Needle Machine with improved feed.

Our PHOENIX machines are provided with a loose wheel for bobbin winding. The bobbin is very large, and capable of holding more thread than any other family machine. The machines are absolutely noiseless and light running.

PRICE LISTS AND FULL PARTICULARS ON APPLICATION.

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BAER AND REMPEL,  
BIELEFELD, GERMANY,  
SEWING MACHINE MANUFACTURERS,  
ESTABLISHED 1865.







# HERMANN LOOG,

LIMITED,

127 & 128, LONDON WALL, LONDON,

SOLE AGENTS FOR

*SINGER AND WHEELER-WILSON*

## SEWING MACHINES

MANUFACTURED BY

## FRISTER & ROSSMANN.

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ALSO

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BY THE HOUSE OF LORDS

FREE ON APPLICATION.

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## KNITTING & EMBROIDERY MACHINES

AND THE WELL-KNOWN

*"QUEEN OF MUSIC" HAND ORGAN*

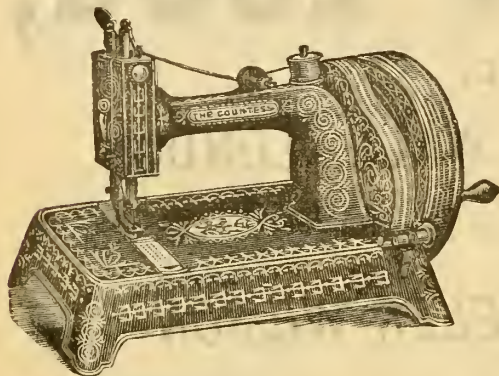
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## PLAYING ONE THOUSAND TUNES.

## GIBSON & Co.,

NEPTUNE WORKS, 196, ICKNIELD STREET, BIRMINGHAM.

"Neptune" Machine, £4 4s. "Ruby" Machine, complete, £4.  
(WITH WALNUT OR IRON BASE, COMPLETE).



Sole Manufacturers of the  
"NEPTUNE,"  
"RUBY,"  
AND  
"COUNTRESS"  
SEWING MACHINES.  
(HAND OR TREADLE.)

Agents should send Order for Sample.

Every Machine guaranteed to give  
perfect satisfaction.

Made from best Materials.  
and accurately fitted.

ALL ORDERS EXECUTED WITHIN  
SEVEN DAYS.



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NOVEL AND USEFUL CHRISTMAS PRESENTS.

## The "VICTORIA" KETTLE,

WITHOUT A BOTTOM,

WITHOUT A LID,

WITHOUT A SPOUT.

Made in Blocked Copper, Steel, and Tin, to hold One, Two, & Three Quarts.

PRICES from 2s. 6d. to 15s.

Will boil in one-third less time than an ordinary kettle. Trade terms very liberal. Full address

The London Patent Automatic Disinfector Company,

53, QUEEN VICTORIA STREET, LONDON, E.C.,

Sole Patentees and Manufacturers of the celebrated Automatic Disinfector for W.C.'s.

## THE "NEW AMERICAN" SEWING MACHINE.

THE BEST IN THE WORLD.

ALL THE MODERN IMPROVEMENTS:

High Arm, Lock Stitch, Self-Setting Needle, Self-Threading Shuttle, Light Running, Durable, Simple, Highly Ornamented, Improved Mechanism



**JOHN TESTER & Co.,**

(MANUFACTURERS' AGENTS)

Sole Wholesale Agents for the

**GRITZNER MANUFACTURING COMPANY**

IN GREAT BRITAIN AND THE COLONIES.

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**SEWING MACHINES.**

Hand or Treadle. Domestic and Manufacturing.

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The Sewing Machines manufactured by Messrs. GRITZNER and Co., of Durlach, have won Prize Medals at all the principal Exhibitions during the past five years ; but, what is of

**FAR MORE VALUE,**

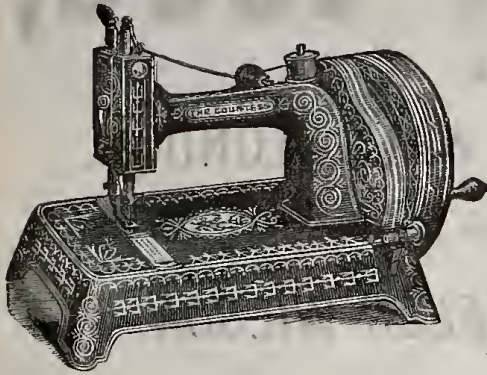
They have won "Golden Opinions" from Agents in all parts

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"Neptune" Machine, £4 4s. "Ruby" Machine, complete, £4.  
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These Machines are great Favourites wherever introduced, and now have a reputation almost World-Wide.

AGENTS WANTED IN ALL UNOCCUPIED TERRITORY. LIBERAL TERMS.

Correspondence solicited from all Parts of the World.

AMERICAN B.H.O. AND SEWING MACHINE Co.,

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#### FAR MORE VALUE,

They have won "Golden Opinions" from Agents in all parts of the World.

The Machines are constructed on the most approved scientific principles—all the parts are interchangeable. Valuable patented improvements have been recently added.

Special advantages are offered to Agents, and every facility is given to enable large Buyers to do a profitable and satisfactory Trade.

NOTE THE ADDRESS—

## JOHN TESTER & Co.,

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\* All Communications for Agencies to be addressed to Birmingham.

IT LEADS THE WORLD.

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**AGENTS WANTED**

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EVERY COUNTRY IN THE WORLD

FOR THE SALE OF THE

ELDREDGE

**B**

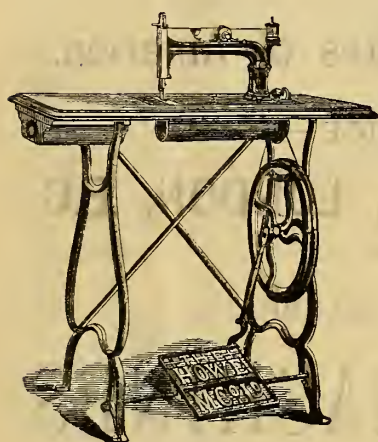
MACHINE.

*FOR PRICES & TERMS ADDRESS*



# Elias Howe Sewing Machines

Adapted for every description of Work.



Purchase no Machines  
WITHOUT THIS  
Trade Mark.

COMPLETE WITH ALL  
APPLIANCES FROM  
£4 4s.

Price Lists & Samples  
on Application.



SEE THE NEW HIGH ARM LIGHT RUNNING HOWE "F" MACHINE.

Manufacturers of Boots and Clothing  
who carry on a high-class trade ONLY  
USE THE HOWE MACHINE.

A Trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several piles of Heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

The Howe Machine Company are also Manufacturers of

## BICYCLES AND TRICYCLES:

The HOWE BICYCLES, price from £14 10s.

(SEE SPECIAL LISTS).

The HOWE TRICYCLES,

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## THE HOWE MACHINE Co., Limited,

46 and 48, Queen Victoria Street, London.

FACTORY - AVENUE STREET, BRIDGETON, GLASGOW.

## MACHINES for TAILORS.

Simplicity,  
Rapidity,  
and

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## WHITE SEWING MACHINE CO

All Sewing Machine Agents, Dealers, and Operators are invited to call and inspect this—the latest Improved and Best Silent Lock-Stitch Shuttle Sewing Machine—or send for Pamphlets, Circulars, &c., to

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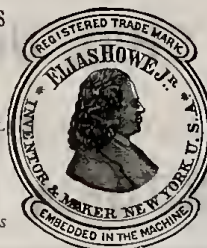


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**MACHINES for TAILORS.**

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**Machines for Domestic Purposes**

Simplicity,  
Rapidity,  
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Durability.

The Quickest  
Lock-Stitch  
Machines  
in the world.

**BRADBURY & Co., Limited,**

WELLINGTON WORKS, OLDHAM,

Are the Oldest and Largest European Manufacturers. Established 1852.  
They have been Awarded more Grand Prize Medals than all the  
other European Manufacturers combined.

**THEIR ROTARY SHUTTLE MACHINE**

Is the Quickest Lock-Stitch Machine in the World,  
runs over 2,000 Stitches per Minute.

NO FRICTION. NO WEAR. NO NOISE. NO GETTING OUT OF ORDER.

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# THE WHITE SEWING MACHINE Co.

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## WHITE SEWING MACHINES,

The Popular Favourites for Noiselessness and Easy Treadle Movement.

UNPARALLELED

SUCCESS

OF THE

“White” Sewing Machine.

*Gold Medal Amsterdam Exhibition 1883.*

**600 MACHINES**

MANUFACTURED AND SOLD EACH DAY.

**500**

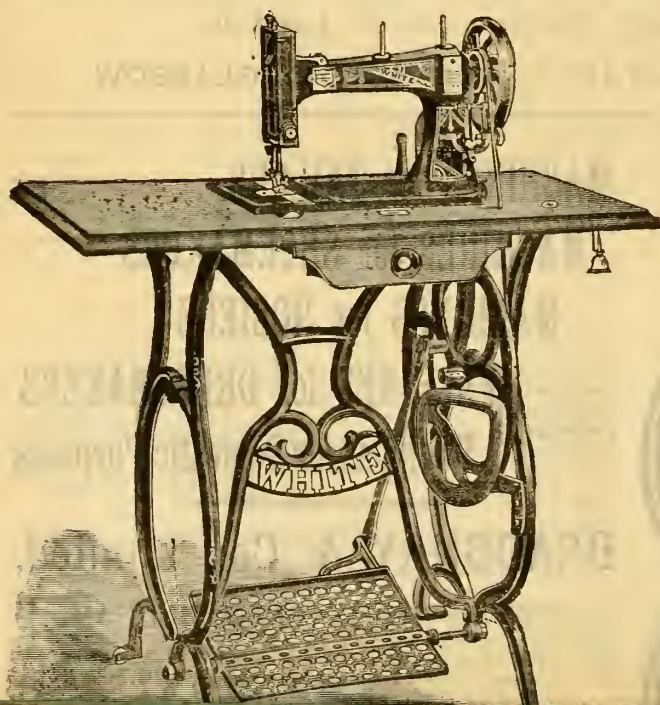
SEWING MACHINE DEALERS IN ENGLAND  
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“WHITE.”

SAMPLES OF WORK AND PRICE LISTS  
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Try a “WHITE”  
BEFORE PURCHASING.

*No other Machine ever had such a Record  
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*It is particularly requested that all communications relating to the "Journal of Domestic Appliances and Sewing Machine Gazette" may be addressed to the Proprietor, Mr. FRANK ALLNUTT, St. Paul's Buildings, Paternoster Row, London, E.C., and that all Cheques may be made payable to him, and crossed "London and County Bank."*

## The Journal of Domestic Appliances, DECEMBER 1st, 1884.

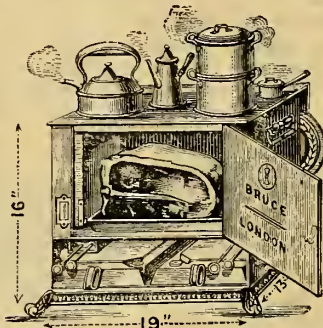
A Special Edition, on THIN WHITE PAPER, is printed for foreign circulation.

We must respectfully urge our correspondents to favour us with their communications early in the month. It is a physical impossibility to publish punctually when important MSS. actually reaches us on the day on which we are supposed to appear.

### Important Notice to the Trade.

**W**E direct the attention of our readers to the article headed, A LARGE UNDERTAKING, on page 19. Although that article is addressed especially to manufacturers of sewing machines and accessories, we would point out that it applies in a measure to manufacturers of domestic appliances and household goods generally. Sewing machine agents do not often—if indeed ever—confine themselves strictly to sewing machines. While it is a fact that an English sewing machine agent seldom considers himself independent of other departments, such as washing and wringing machines, and the like, this feature is more particularly noticeable in the colonies and abroad. Those who have had the opportunity of ascertaining this will corroborate our statement when we say that colonial and foreign sewing machine agents, as a rule, keep "Stores," and that they deal in almost every kind of machine and appliance. It is hardly possible to exaggerate the value of the special circulation which would be given to prospectuses, price lists, &c., through the means the tra

nicety. The two reservoirs draw out, the burners are moveable and convenient for reworking, and fitted with patent indicators, showing by rising when the tanks are full, thus preventing all danger from overflow. The size of oven, inside, is 12-in. by 11-in. by 7 $\frac{3}{4}$ -in., and it is furnished with a ventilator. On the top are two openings for a saucepan and steamer and kettle. There is room for other small cooking utensils to be kept hot or even boil. It has a very convenient plate warming-rack at the back. The articles included with the stove are a meat tray and grid, half-gallon kettle, half-gallon saucepan, half-gallon steamer, frying-pan, pair of best steel scissors (these are very good) for trimming wicks, and funnel for pouring in oil; the price of the whole, complete



and securely packed in strong box, is the marvellously low price of 35s., making it really a marvel of cheapness, and the best oil stove for its size and price extant. For the summer season it is invaluable for the household, nursery, and sick room, or for ladies who desire to become practically proficient in the culinary art, as well as being capitally adapted for jam-preserving, heating irons, &c." In addition to the above testimony, the following answer to correspondence in *The Queen*, May 10th, 1884, may be quoted:—"My only experience of oil stove has been with those of Bruce (90, Blackman Street, and 74, Lant Street, S.E.), and I can assure "Cook" that when properly heated these will cook anything. For bread and pastry a longer time must be allowed for the heating, and if a very cold day, the stove should be set out of a draught, as it cools quickly. I have tried both bread and pastry in the small stove, with one double burner, and found it satisfactory; but

and was unable to perfect his patent. Mr. Hunt, about 1852, repurchased his invention from Arrowsmith, and applied for a patent. The commissioner of the department decided that he had made a good working machine, but held that he had forfeited his right to a patent by his neglect and the sale of his invention. The extreme versatility of Hunt prevented his success; his inventor absorbed his time, and he seemingly had none left securing the pecuniary results of his genius. He missed, and by mere inattention, one of the great opportunities of the century. The main feature of the machine had been patented, eight years previous to Hunt's application, to another inventor—Edmund and when, as already mentioned, Hunt applied for a patent in 1854, it was refused him on the abandonment.—H. C. KNIGHT.

ing, grilling, and supporting a kettle, and the gas-ordinary hastener. The fire-guard turns down for toast will grill and roast joints suspended from it in an toast bread more rapidly than a coal or coke fire, and is efficient for a large room in very severe weather. It will give out a very powerful heat, quite sufficient in the simplest and most effective asbestos fire ever in the places or placed on the hearth. It is claimed to be the very handsome, and the "fire" can be fixed in fire-places. Fletcher's Incandescent Asbestos Fire. The design of Fletcher's Incandescent Gas Stoves.

(ILLUSTRATED.)

could not be worked up in them.

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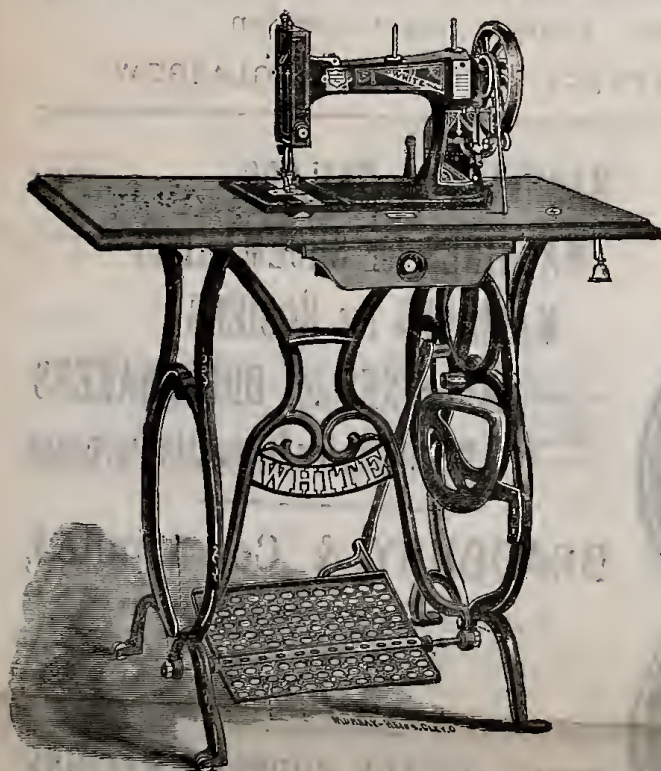
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### Bruce's Oil Cooking Stoves.

(ILLUSTRATED.)

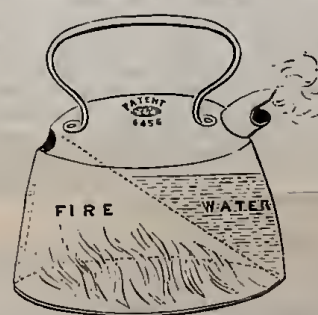
WE give an illustration of the "Household Friend," the latest invention of Mr. R. C. Bruce, the very successful lamp and oil stove manufacturer, of Blackman Street and Lant Street, Borough.

It will be seen that the stove is very complete, while it has also the advantage of being very cheap indeed. It is very strongly though lightly constructed, and is in every respect deserving of attention. Sewing machine agents doing anything in this line will find the stove gives every satisfaction. After an exhaustive and thoroughly impartial trial the following is the result, and we have pleasure in giving it here, having confidence in the impartiality and ability of the parties by whom the test was made:—"The stove is constructed upon scientific principles; hence, it is remarkably effective, and capable of performing ordinary as well as the most delicate cooking. The "Household Friend" does not emit any unpleasant fumes; it is also quite safe and economical, the last an important desideratum in this utilitarian age. The management is extremely simple, if the directions attached are attended to, and the apparatus kept clean. A lady can cook in three hours a dinner of three courses, with vegetables, for five or six persons, without soiling her dress or injuring her hands in any way. This is our own experience after several trials. Boiling water, say three pints, is attainable in from eight to ten minutes, and a smaller quantity in a proportionately less time. The stove contains two three-inch double burners; it has, therefore, six inches of wick each side of the oven, and consequently immense heating power, which can be moderated to the greatest

nicety. The two reservoirs draw out, the burners are moveable and convenient for rewicking, and fitted with patent indicators, showing by rising when the tanks are full, thus preventing all danger from overflow. The size of oven, inside, is 12-in. by 11-in. by 7½-in., and it is furnished with a ventilator. On the top are two openings for a saucepan and steamer and kettle. There is room for other small cooking utensils to be kept hot or even boil. It has a very convenient plate warming-rack at the back. The articles included with the stove are a meat tray and grid, half-gallon kettle, half-gallon saucepan, half-gallon steamer, frying-pan, pair of best steel scissors (these are very good) for trimming wicks, and funnel for pouring in oil; the price of the whole, complete



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### The Victoria Kettle.

(ILLUSTRATED.)

SINCE the time that Watts is supposed to have gained inspiration from watching steam emerge from the spout of a kettle and raise the lid of the same useful article, very little has been done in the way of improving the construction of kettles. We give an illustration, however, of a genuine novelty. If it be true that the very existence of railways and locomotives is

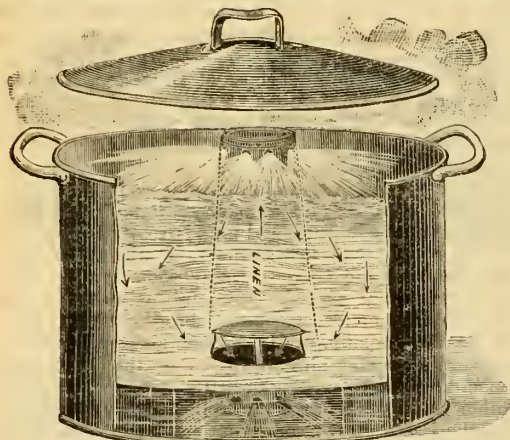


due to the cause indicated, we ought to be exceedingly thankful that the Victoria Kettle was not invented in George Stephenson's day, for this remarkable product of ingenuity has neither lid nor spout, nor even a bottom. When we first saw this statement we were under the impression that there was some catch in it, and we accordingly sent round for a sample, thinking some fun could be made out of it. As a matter-of-fact, however, the description is absolutely correct. There is neither lid, spout, nor bottom. Instead of lid and spout, a convenient neck, not unlike that of a ewer, serves the double purpose, while instead of a flat bottom in the ordinary way the fire is drawn through the kettle, so that a larger body of water comes in immediate contact with the heated tin or other metal, the result being that a "Victoria" will boil on a good fire almost instantly, the draught through the kettle generating an enormous heat, and instead of deadening the fire, as is the case with other kettles, the Victoria will draw a fire which is dull and lacking life. The price is very moderate, and the kettle is as well as it is ingeniously constructed.

### Harmen's Patent Washing Machine.

(ILLUSTRATED.)

WE give an illustration of Harmen's Patent Washing Machine, which claims to be the only really automatic washing machine in existence. The cost is exceedingly small, being only about 30s. complete, while the amount of work it will do is certainly remarkable. It is very simple, consisting merely of a strong tinned iron case with a copper bottom, and also a loose bottom which fits easily in the outer case. It is light and portable, convenient for using, and effective in results. It is very economical, for the reason not only that it requires

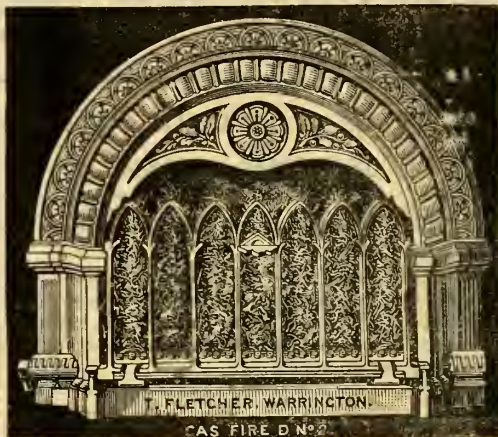


HARMEN'S PATENT WASHING MACHINE.

a very small amount of labour, but there being no rubbing to damage the clothes or wash-board to tear them, or any soda or chemicals to rot them, prudent housewives will find it even more economical in its use than may appear at first sight. The manufacturers are Messrs. Deane & Co., of 46, King William Street, London Bridge, who will be happy to supply agents with full particulars and price lists, and as the washer meets so many of the very reasonable objections brought forward against ordinary washing machines, we should think it would be well worth while considering whether a business

supplied can be from either side as required. Last, but not least, the price is exceedingly small.

Among the other patterns of Fletcher's asbestos fires are several well deserving notice, the one given being



FLETCHER'S ASBESTOS FIRE.

especially recommended for its efficiency, elegant appearance, portability and cheapness. Having given the stove a trial we are able to vouch for its efficiency. The manufacturer is Mr. Fletcher, of Warrington, and the London agents are Messrs. Deane & Co., of London Bridge, the latter of whom will give information to any applicant on receipt of trade card.

*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

MESSRS. BRADBURY & Co., of Wellington Works, Oldham, Lancashire, have been making some additions to their extensive works, and have issued a new illustrated catalogue of their sewing machines and depôts in the United Kingdom. They recommend Messrs. James Chadwick, & Brother's cotton for their celebrated rotary shuttle machines, which, we hear, continue to have a good sale in America. This is the only English firm which has competed with success with American manufacturers in that country.

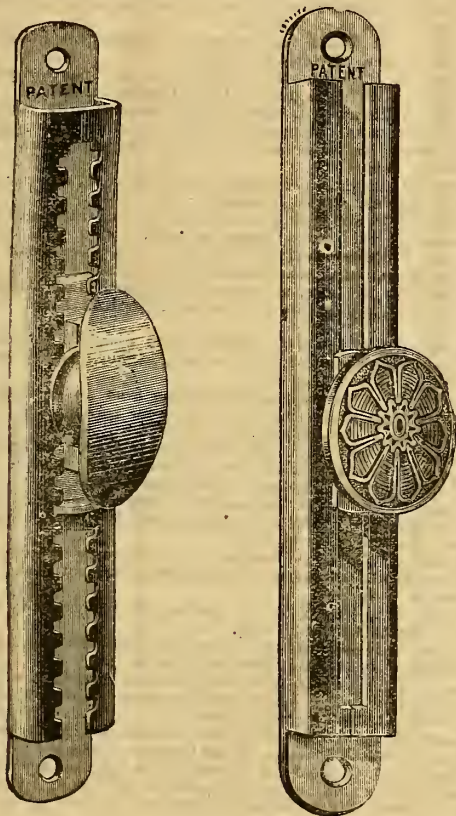
A CARELESS INVENTOR.—Between 1832 and 1834, Walter Hunt, an ingenious and highly educated mechanic of New York, invented, manufactured, and sold, a number of sewing machines which were operated successfully by several persons. These machines had a curved eye-pointed needle at the end of a vibrating arm, used two threads, the lower being on a bobbin, and enclosed in a shuttle, and made the "lock stitch" i.e., a stitch in which the two threads—that from the needle and that from the shuttle—interlock by a single turn or twist as nearly as may be in the centre of the goods or fabric which is being sewn. Like many other inventors, Hunt was improvident, and neglected to patent his inventions. In 1834, a Mr. G. A. Arrowsmith, who had seen these machines working, and who desired to introduce them into the market, purchased of Walter Hunt, for a small sum, two or three of these machines and the right to procure a patent and manufacture them. While the application for a patent was pending, Mr. Arrowsmith became involved in pecuniary difficulties,



## Albion Works, Birmingham.

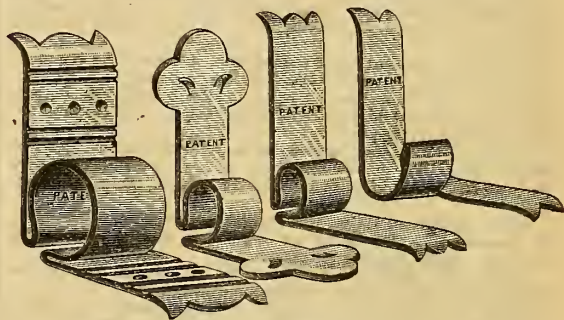
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BY the courtesy of Mr. F. A. Harrison, proprietor of the Albion Works, Birmingham, we are able to give a few illustrations of some of his specialities, which we think will be received with interest. The whole of the articles are turned out in excellent style, and we are able to testify to the fact that the specialities really possess the advantages which are claimed for them. The first illustration is of the



in a half-circular slot on the part which is fixed on the top sash.

The "Kingston" Patent Self-fixing Stair Eye, also illustrated, supplies an article of the greatest possible utility, and is a great boon to householders, as it is fixed without screws, and does not require any experienced carpenter or expensive tools to fix it. It may be taken up for cleaning, painting, &c., by a child, and should one get lost it can be replaced without any inconvenience. They are fixed by placing the thumb upon the ring part, then firmly pressing into the required position in the angle of the stair, and removed as easily by pressing the side. They are better finished, and an ornament to the stairs, unlike the old-fashioned clumsy cast ones.



We also give an illustration of a Patent Sunk-slide Flush Bolt, which are machine made, and the metal is of an even thickness. The action is smooth and pleasant without liability to break the finger nails so objectionable in cast bolts by being "jerky" in action. They are neater at the back, therefore easier to fix and requiring less wood cut away.



1884.  
Hanover, for improvements in heating apparatus. Dated June 10, 1878.  
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Francisco, California, United States, for an improvement in grate bars. 5,489 T. Dugard, a communication from J. Meller, of San Francisco, California, United States, for an improvement in grate bars. Dated March 18, 1884.  
5,077 O. Arndt, of Quedlinburg, Germany, for improvements in apparatus for making infusions of coffee, tea, and other substances. Dated February 27, 1884.  
4,023 E. G. Rivers, of Cleveland, Somersetshire, for an improved safety lamp. Dated February 27, 1884.  
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13,695 J. H. Weston, of London, for an improved construction of shadowless shade or reflector supports for gas and other lamps or burners. Dated October 16, 1884.  
13,704 J. N. Harvey, a communication from C. Franklyn, of United States, for an apparatus for warming food, boiling water, and such like purposes. Dated October 16, 1884.  
13,717 W. H. Stephenson, of Blackburn, for improvements in apparatus for heating by hot water and for heating water for domestic or other purposes. Dated October 17, 1884.

## COOKING, HEATING, AND LIGHTING APPARATUS.

13,720 J. Knight, of London, for an improved appliance for facilitating the trimming of wicks of oil lamps. Dated November 12, 1884.  
14,974 F. Fraser, of London, for improvements in domestic fire-grates. Dated November 13, 1884.  
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due to the cause indicated, we ought to be exceedingly thankful that the Victoria Kettle was not invented in George Stephenson's day, for this remarkable product of ingenuity has neither lid nor spout, nor even a bottom. When we first saw this statement we were under the impression that there was some catch in it, and we accordingly sent round for a sample, thinking some fun could be made out of it. As a matter-of-fact, however, the description is absolutely correct. There is neither lid, spout, nor bottom. Instead of lid and spout, a convenient neck, not unlike that of a ewer, serves the double purpose, while instead of a flat bottom in the ordinary way the fire is drawn through the kettle, so that a larger body of water comes in immediate contact with the heated tin or other metal, the result being that a "Victoria" will boil on a good fire almost instantly, the draught through the kettle generating an enormous heat, and instead of deadening the fire, as is the case with other kettles, the Victoria will draw a fire which is dull and lacking life. The price is very moderate, and the kettle is as well as it is ingeniously constructed.

### Harmen's Patent Washing Machine.

(ILLUSTRATED.)

WE give an illustration of Harmen's Patent Washing Machine, which claims to be the only really automatic washing machine in existence. The cost is exceedingly small, being only about 30s. complete, while the amount of work it will do is certainly remarkable. It is very simple, consisting merely of a strong tinne iron case with a copper bottom, and also a loose bottom which fits easily in the outer case. It is light and portable, convenient for using, and effective in results. It is very economical, for the reason not only that it requires



HARMEN'S PATENT WASHING MACHINE.

a very small amount of labour, but there being no rubbing to damage the clothes or wash-board to tear them, or any soda or chemicals to rot them, prudent housewives will find it even more economical in its use than may appear at first sight. The manufacturers are Messrs. Deane & Co., of 46, King William Street, London Bridge, who will be happy to supply agents with full particulars and price lists, and as the washer meets so many of the very reasonable objections brought forward against ordinary washing machines, we should think it would be well worth while considering whether a business could not be worked up in them.

### Fletcher's Incandescent Gas Stoves.

(ILLUSTRATED.)

THE illustration accompanying this article is that of Fletcher's Incandescent Asbestos Fire. The design is very handsome, and the "fire" can be fixed in fire-places or placed on the hearth. It is claimed to be the simplest and most effective asbestos fire ever in the market. It gives out a very powerful heat, quite sufficient for a large room in very severe weather. It will toast bread more rapidly than a coal or coke fire, and will grill and roast joints suspended from it in an ordinary hastener. The fire-guard turns down for toasting, grilling, and supporting a kettle, and the gas

supplied can be from either side as required. Last, but not least, the price is exceedingly small.

Among the other patterns of Fletcher's asbestos fires are several well deserving notice, the one given being



FLETCHER'S ASBESTOS FIRE.

especially recommended for its efficiency, elegant appearance, portability and cheapness. Having given the stove a trial we are able to vouch for its efficiency. The manufacturer is Mr. Fletcher, of Warrington, and the London agents are Messrs. Deane & Co., of London Bridge, the latter of whom will give information to any applicant on receipt of trade card.

*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

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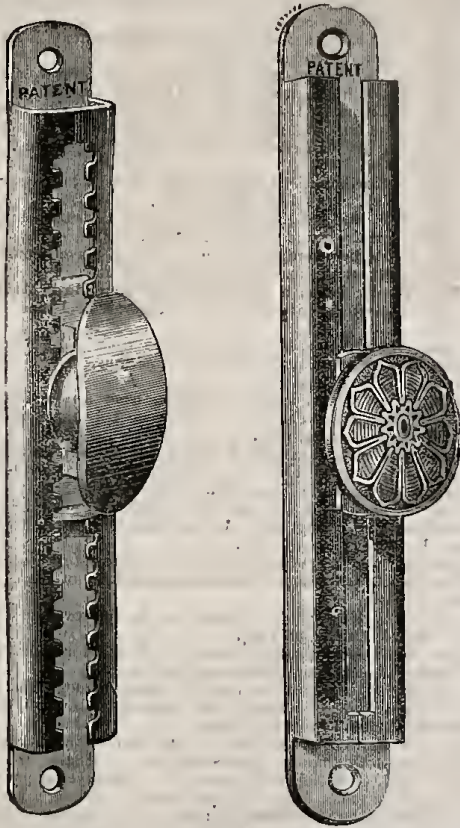




## Albion Works, Birmingham.

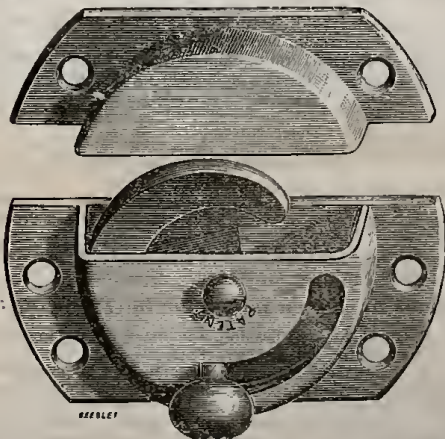
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Patent Rack Pulleys, adjustable at any point by simply pressing the knob which at once releases the slide from the teeth of the body, and may be moved as required. The instant the pressure is removed the slide again engages in the teeth, and becomes firmly fixed. Another illustration is that of his patent rack pulley which may be adjusted to the greatest possible nicety by simply giving a half turn of the knob to the left. The slide may then be placed in the exact place required. A half turn of the knob to the right will then firmly fix it.

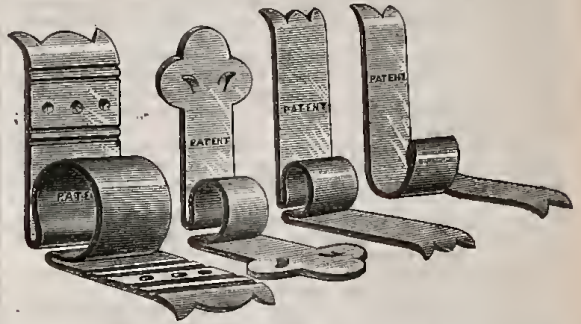
We also illustrate a Patent Sash Fastener of a circular form, which cannot be opened from the outside, and binds the sashes firmly together, thus preventing rattling



or draught. It will be seen from the illustration that the action is similar to the ordinary fastener, the movement of the knob actuates a cam-shaped lever which engages

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The same firm also have on hand a large assortment of sash lifts, picture hangers, picture nails, cord holders, tassel hooks of artistic designs. The whole of this firm's goods being machine-made of the same thickness of metal as cast goods, are infinitely stronger and not being subject to flaws and "sand-holes" so prevalent in cast goods. They are also capable of receiving a very much higher finish, and are also known throughout the trade as the best finished goods in the market.



## Domestic Patents.

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13,919 E. Owen Greening and E. W. Greening, of London, for an improved cinder SIFTER. Dated October 21, 1884.

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14,300 J. P. Blackford, of London, for improvements in apparatus for heating water for WASHING MACHINES. Dated Oct. 29, 1884.

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14,701 W. H. Blackwell and W. Chantler, of Hooley, near Manchester, improvements in WRINGING MACHINES. Dated November 7, 1884.

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9,260 S. Woodall, of Dudley, Worcestershire, for an improved

13,723 J. H. Sambrook, of Stretford, for the combination of an OVEN HEATER, and flat or smoothing IRON HEATER. Dated October 17, 1884.

13,819 E. Brooks, of Birmingham, for improvements in apparatus for WARMING plates, dishes, tea and coffee pots, kettles, carriages, beds, &c. Dated October 18, 1884.

13,845 D. Cowan, of Glasgow, for improvements in COOKING RANGES. Dated October 20, 1884.

13,911 J. Sefton, of Belfast, for improvements in gas burning smoothing IRONS for laundries. Dated October 21, 1884.

13,920 E. Baller, of London, for improvements in LAMPS for burning light or volatile oils. Dated October 21, 1884.

13,944 J. Lewis, of London, for improvements in GAS BURNERS for consuming a mixture of gas and air for illuminating and heating purposes. Dated October 21, 1884.

13,963 J. H. Radcliffe, of Oldham, for improvements in LAMPS or LANTERNS. Dated October 22, 1884.

14,002 J. B. Lowenstein, of London, for improvements in apparatus for holding CANDLES. Dated October 22, 1884.

14,009 A. Evans, of London, for improvements in or connected with GASOLIER, CHANDELIERS, and ELECTROLIERs, also applicable to the raising and lowering of other sliding appliances. Dated October 22, 1884.

14,064 A. Kohlhofer, of London, for an improved construction of domestic STOVES. Dated October 23, 1884.

14,077 T. F. Stidolph, of Woodbridge, for a CANDLE holdfast and save-all combined. Dated October 24, 1884.

14,243 F. Herbert and H. Osborne, both of Ravenscourt Park, London, for VENTILATORS. Dated October 28, 1884.

14,266 W. R. Lake, a communication from Mark Madkiel, of Moscow, for improvements in COOKING apparatus. Dated October 28, 1884.

14,269 W. R. Lake, a communication from M. Madkiel, of Moscow, for improvements in COOKING apparatus. Dated October, 28, 1884.

14,281 A. C. Jones, a communication from Anton Testory, of Buda-pest, for improvements in LAMPS for burning hydrocarbon oils. Dated October 29, 1884.

14,346 G. Kinnaird, sen., G. Kinnaird, jun., and J. Kinnaird, of Glasgow, for converting close FIRE RANGES into the "Unique" combined open and close fire ditto. Dated October 30, 1884.

14,349 T. Oakley, of London, for a combined portable SMOKE-UP-TAKE, funnel, or casing, and SOOT-CATCHER for kitchen ranges and grates. Dated October 30, 1884.

14,359 H. W. Hart, of London, for an improved method of and apparatus for COOKING meat, fish, and other articles of food. Dated October 30, 1884.

14,570 J. E. Hopkinson, of London, for improvements in oil LAMPS. Dated October 30, 1884.

14,398 G. H. Brown and A. Brown, of Derby, for improvements in domestic FIRE-PLACES. Dated October 31, 1884.

14,424 H. P. Miller, of Craven Terrace, London, for gas air WARMING apparatus for heating air by suspension from an ordinary gas burner. Dated October 31, 1884.

14,436 A. Rettich, of London, for improvements in and connected with BURNERS for oil lamps. Dated October 31, 1884.

14,442 E. J. C. Welch, of London, for an improved apparatus for preparing decoctions, especially applicable for making infusions of tea and coffee. Dated October 31, 1884.

14,458 J. Sankey, of Sutton Coldfield, for improvements in LAMPS for burning hydro-carbon oils. Dated November 1, 1884.

14,487 H. Thompson, of London, for improvements in STOVES and GRATES. Dated November 1, 1884.

14,499 W. Kernick and W. C. W. Hanter, of Boscastle, for TOASTING of BREAD without damage by fork or handling by dirty hands. Dated November 3, 1884.

14,527 D. Allport, of London, for improvements in PETROLEUM and other oil lamps. Dated November 4, 1884.

14,591 W. K. Fulleylove, of Rugby, for a new ROWEL arrangement for petroleum burners. Dated November 5, 1884.

14,619 F. W. Brampton, of Birmingham, for an improved CANDLE-STICK. Dated November 5, 1884.

14,758 G. T. C. Beaumont and N. Maurice, of London, for improvements in CANDLE-SHADE HOLDERS. Dated Nov. 8, 1884.

14,809 P. Jensen, a communication from F. S. Svenson, for improvements in PETROLEUM and other lamps. Dated November 10, 1884.

14,830 J. Westley, of Birmingham, for an improved ventilating heating GAS STOVE. Dated November 11, 1884.

14,835 H. Walker, of Birmingham, for improvements in apparatus for promoting and regulating combustion in FIRE-PLACES. Dated November 11, 1884.

14,839 J. Shaw, of London, for saving fuel and preventing smoke in open FIRE-GRATES. Dated November 11, 1884.

14,892 J. Winfield and H. G. Evered, of Derby, and H. W. Underhill, of London, for making a combined cooking and ornamental



9,308 G. W. Chambers, of Rotherham, for improvements in  
STOVE GRATE. Dated June 23, 1884.

10,449 H. J. Haddan, a communication from E. H. Foss, of  
Campello, Massachusetts, United States, for improvements in  
BICYCLES. Dated July 22, 1884.

3,545 J. Southall, of Worcester, for improvements in dumb bells.  
 3,739 C. Ibbotson, of Sheffield, for improvements in the construction and manufacture of scissors and shears. Dated February 22, 1884.  
 3,750 J. Southall, of Worcester, for improvements in dumb bells.  
 3,972 A. Harvey, of Lewisham, London, for the improvement of chinkey pots and venturators. Dated February 29, 1884.  
 4,745 W. Brandon, of Birmingham, for an improved tea pot. Dated March 12, 1884.  
 6,783 J. H. King, of Liverpool, for improvements in keys, and in appliances for assisting in using the same. Dated April 25, 1884.  
 8,326 F. E. Taylor, of Birmingham, for an adjustable lock or fastening. Dated May 28, 1884.  
 9,188 M. E. Rochester, of Kilburn, London, for an improved garden trowel and planter. Dated June 19, 1884.



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- 13,681 W. R. E. Alexander, of London, for an improved cutting apparatus for trimming LAMP WICKS. Dated October 16, 1884.
- 13,695 J. H. Weston, of London, for an improved construction of SHADOWLESS SHADE or REFLECTOR SUPPORTS for gas and other lamps or burners. Dated October 16, 1884.
- 13,704 J. N. Harvey, a communication from C. Franklin, of United States, for an apparatus for WARMING FOOD, BOILING WATER, and such like purposes. Dated October 16, 1884.
- 13,717 W. H. Stephenson, of Blackburn, for improvements in APPARATUS for heating by hot water and for heating water for domestic or other purposes. Dated October 17, 1884.

- 13,723 J. H. Sambrook, of Stretford, for the combination of an OVEN HEATER, and flat or smoothing IRON HEATER. Dated October 17, 1884.
- 13,819 E. Brooks, of Birmingham, for improvements in apparatus for WARMING plates, dishes, tea and coffee pots, kettles, carriages, beds, &c. Dated October 18, 1884.
- 13,845 D. Cowan, of Glasgow, for improvements in COOKING RANGES. Dated October 20, 1884.
- 13,911 J. Sefton, of Belfast, for improvements in gas burning smoothing IRONS for laundries. Dated October 21, 1884.
- 13,920 E. Baller, of London, for improvements in LAMPS for burning light or volatile oils. Dated October 21, 1884.
- 13,944 J. Lewis, of London, for improvements in GAS BURNERS for consuming a mixture of gas and air for illuminating and heating purposes. Dated October 21, 1884.
- 13,963 J. H. Radcliffe, of Oldham, for improvements in LAMPS or LANTERNS. Dated October 22, 1884.
- 14,002 J. B. Lowenstein, of London, for improvements in apparatus for holding CANDLES. Dated October 22, 1884.
- 14,009 A. Evans, of London, for improvements in or connected with GASELIERS, CHANDELIERS, and ELECTROLIERS, also applicable to the raising and lowering of other sliding appliances. Dated October 22, 1884.
- 14,064 A. Kohlhofer, of London, for an improved construction of domestic STOVES. Dated October 23, 1884.
- 14,077 T. F. Stidolph, of Woolbridge, for a CANDLE holdfast and save-all combined. Dated October 24, 1884.
- 14,243 F. Herbert and H. Osborne, both of Ravenscourt Park, London, for VENTILATORS. Dated October 28, 1884.
- 14,266 W. R. Lake, a communication from Mark Madkiel, of Moscow, for improvements in COOKING apparatus. Dated October 28, 1884.
- 14,269 W. R. Lake, a communication from M. Madkiel, of Moscow, for improvements in COOKING apparatus. Dated October 28, 1884.
- 14,281 A. C. Jones, a communication from Anton Testory, of Buda-pest, for improvements in LAMPS for burning hydrocarbon oils. Dated October 29, 1884.
- 14,346 G. Kinnaird, sen., G. Kinnaird, jun., and J. Kinnaird, of Glasgow, for converting close FIRE RANGES into the "Unique" combined open and close fire ditto. Dated October 30, 1884.
- 14,349 T. Oakley, of London, for a combined portable SMOKE-UP TAKE, funnel, or casing, and SOOT-CATCHER for kitchen ranges and grates. Dated October 30, 1884.
- 14,359 H. W. Hart, of London, for an improved method of and apparatus for COOKING meat, fish, and other articles of food. Dated October 30, 1884.
- 14,570 J. E. Hopkinson, of London, for improvements in oil LAMPS. Dated October 30, 1884.
- 14,398 G. H. Brown and A. Brown, of Derby, for improvements in domestic FIRE-PLACES. Dated October 31, 1884.
- 14,424 H. P. Miller, of Craven Terrace, London, for gas air WARMING apparatus for heating air by suspension from an ordinary gas burner. Dated October 31, 1884.
- 14,436 A. Rettich, of London, for improvements in and connected with BURNERS for oil lamps. Dated October 31, 1884.
- 14,442 E. J. C. Welch, of London, for an improved apparatus for preparing decoctions, especially applicable for making infusions of tea and coffee. Dated October 31, 1884.
- 14,458 J. Sankey, of Sutton Coldfield, for improvements in LAMPS for burning hydro-carbon oils. Dated November 1, 1884.
- 14,487 H. Thompson, of London, for improvements in STOVES and GRATES. Dated November 1, 1884.
- 14,499 W. Kernick and W. C. W. Hanter, of Boscastle, for TOASTING of BREAD without damage by fork or handling by dirty hands. Dated November 3, 1884.
- 14,527 D. Allport, of London, for improvements in PETROLEUM and other oil lamps. Dated November 4, 1884.
- 14,591 W. K. Fulleylove, of Rugby, for a new ROWEL arrangement for petroleum burners. Dated November 5, 1884.
- 14,619 F. W. Brampton, of Birmingham, for an improved CANDLE-STICK. Dated November 5, 1884.
- 14,758 G. T. C. Beaumont and N. Maurice, of London, for improvements in CANDLE-SHADE HOLDERS. Dated Nov. 8, 1884.
- 14,809 P. Jensen, a communication from F. S. Svenson, for improvements in PETROLEUM and other lamps. Dated November 10, 1884.
- 14,830 J. Westley, of Birmingham, for an improved ventilating heating GAS STOVE. Dated November 11, 1884.
- 14,835 H. Walker, of Birmingham, for improvements in apparatus for promoting and regulating combustion in FIRE-PLACES. Dated November 11, 1884.
- 14,839 J. Shaw, of London, for saving fuel and preventing smoke in open FIRE-GRATES. Dated November 11, 1884.
- 14,892 J. Winfield and H. G. Evered, of Derby, and H. W. Underhill, of London, for making a combined cooking and ornamental oven mantel register. Dated November 12, 1884.
- 14,920 J. Knight, of London, for an improved appliance for facilitating the trimming of wicks of oil lamps. Dated November 12, 1884.
- 14,974 F. Fraser, of London, for improvements in domestic FIRE-GRATES. Dated November 13, 1884.

#### Patents have been issued for the following:—

- 4,023 E. G. Rivers, of Clevedon, Somersetshire, for an improved SAFETY LAMP. Dated February 27, 1884.
- 5,077 O. Arndt, of Quedlinburg, Germany, for improvements in apparatus for making INFUSIONS of coffee, tea, and other substances. Dated March 18, 1884.
- 5,489 T. Dugard, a communication from J. Mailer, of San Francisco, California, United States, for an improvement in GRATE BARS. Dated March 26, 1884.
- 8,778 J. H. Johnson, a communication from E. Korting, of Hanover, for improvements in HEATING APPARATUS. Dated June 10, 1884.







8,813 W. K. Lake, a communication for supplying air to LAMPS. Dated June 10, 1884.

9,308 G. W. Chambers, of Rotherham, for improvements in STOVE GRATE. Dated June 23, 1884.

#### CYCLES AND ACCESSORIES.

13,541 E. Butler, of Sandleford, Newbury, for the mechanical propulsion of such light vehicles as 'CYCLES, &c. Dated October 14, 1884.

13,585 H. H. Lake, a communication from J. S. Murray, of United States, for improvement in BALL-BEARINGS, chiefly designed for use in velocipedes. Dated October 14, 1884.

13,705 W. J. Downton, a communication from C. O'Neill, of New South Wales, for an improvement in BICYCLES. Dated October 16, 1884.

13,895 H. J. Brookes, of Smethwick, for improvements in the construction of convertible tandem TRICYCLES. Dated Oct. 21, 1884.

13,927 P. A. Newton, a communication from C. S. Seddell, of United States, for improvements in BICYCLES. Dated Oct. 21, 1884.

13,974 F. Burgh, of Birkdale, Southport, for BICYCLE and TRICYCLE sailing appliances. Dated October 22, 1884.

13,996 R. Midworth, of London, for an improved "sociable" VELOCIPEDE. Dated October 22, 1884.

14,007 S. Goodby, of London, for improvements in the means employed for connecting the backbones or frames of BICYCLES and TRICYCLES with the steering-wheel forks thereof. Dated Oct. 22, 1884.

14,021 T. Reeves, of London, for improvements in VELOCIPEDES. Dated October 22, 1884.

14,079 R. E. Phillips, of South Norwood, for an improved CLIP for mounting the lamps for velocipedes. Dated October 24, 1884.

14,121 T. Shakspear, of Birmingham, for improvement in VELOCIPEDES. Dated October 25, 1884.

14,133 E. Barlow, of Patricroft, for a centreless motion for BICYCLES, TRICYCLES, &c. Dated October 25, 1884.

14,165 A. J. Ransome and E. Barnes, of Bickenhill, near Birmingham, for an automatic safety appliance for BICYCLES and TRICYCLES. Dated October 27, 1884.

14,191 R. Green, of Birmingham, for improvements in BRAKE BANDS, applicable to tricycles, and other wheeled carriages. Dated October 27, 1884.

14,229 J. Jackson, of Coventry, for improvements in PEDALS for velocipedes. Dated October 28, 1884.

14,284 A. J. Blyde, of London, for improvements in BICYCLES. Dated October 29, 1884.

14,305 R. S. Wheels, of London, for a new or improved motive power for propelling TRICYCLES and analogous vehicles. Dated October 29, 1884.

14,320 J. Harrington and J. Hopper, of London, for an improved folding TRICYCLE. Dated October 29, 1884.

14,352 W. Hillman, of London, for an improved method of securing ELASTIC TYRES, or rings on the wheels of velocipedes, carriages, and like vehicles. Dated October 30, 1884.

14,495 S. Martin, of Birmingham, for improvements in DETACHABLE BAR-HANDLES for bicycles and other velocipedes. Dated November 3, 1884.

14,532 D. Roper, of Liverpool, for improvements in DRIVING-GEAR for bicycles, tricycles, and similar velocipedes. Dated November 4, 1884.

14,539 W. Spence and R. E. Phillips, of London, for improvements in VELOCIPEDES. Dated November 4, 1884.

14,540 J. Sharp, of Birmingham, for improvements in the construction of VELOCIPEDES. Dated November 4, 1884.

14,566 J. Bickmore, of London, for improvements in CARRIAGES propelled by foot power, such as tricycles. Dated Nov. 4, 1884.

14,568 J. White and J. Asbury, of London, improvements in BICYCLES. Dated November 4, 1884.

14,569 M. D. Rucker, of London, for improvements in VELOCIPEDES for two riders. Dated November 4, 1884.

14,570 M. D. Rucker, of London, for improvements in VELOCIPEDES. Dated November 4, 1884.

14,573 F. S. Liley, of London, for an improved method of attaching the SADDLE or SEAT to velocipedes. Dated Nov. 4, 1884.

14,582 G. T. Lütticke, of London, for an improved MECHANICAL TOY RAILWAY for propelling carriages, velocipedes, and the like. Dated November 4, 1884.

14,674 G. Coles, of London, for an improved VELOCIPEDE. Dated November 6, 1884.

14,755 J. P. M. Millard, a communication from E. Petzoldt and O. G. Dell, Dresden, for improved DRIVING-GEAR for sewing machines, with motive or foot power. Dated November 8, 1884.

14,797 C. Spratt and A. C. Churchman, of New Cross, London, for universal cycle CLAMP. Dated November 10, 1884.

14,811 J. K. Starley, of London, for improvements in BICYCLES. Dated November 10, 1884.

14,855 J. T. Townsend and I. I. Horne, of Birmingham, for an improved TANDEM VELOCIPEDE. Dated November 11, 1884.

14,878 W. Hayhurst, of Burnley, for the motion of what is commonly called hobby horses or swinging horses, or tricycles, or any machine used for similar purposes. Dated Nov. 12, 1884.

14,913 C. Phillips, of London, for improvements in bicycle and tricycle LAMPS. Dated November 12, 1884.

14,969 S. Davies, of London, for a new or improved MACHINE, termed a "Wheel stilt," to be used as a velocipede or stilt. Dated November 13, 1884.

14,972 G. Mabbutt, of London, for improvements in SPEED OR DRIVING GEAR for bicycles. Dated November 13, 1884.

14,975 G. Sayer, of London, for improvements in BICYCLES. Dated November 13, 1884.

#### Patents have been issued for the following:—

1,595 J. and H. Lucas, of Birmingham, for improvements in velocipede and other LAMPS. Dated January 17, 1884.

2,455 A. J. Peddie, of Sunderland, for improvements in SPRINGS for supporting the saddles or seats of bicycles and other velocipedes. Dated January 31, 1884.

7,928 J. Laughlin, of St. Louis, Missouri, United States, for improvements in BICYCLES. Dated May 19, 1884.

10,449 H. J. Haddan, a communication from E. H. Foss, of Campello, Massachusetts, United States, for improvements in BICYCLES. Dated July 22, 1884.

#### SANITARY APPLIANCES.

13,691 G. Nobes, of London, for improvements in means and appliances for supplying DISINFECTING FLUID to WATER CLOSETS and URINALS. Dated October 16, 1884.

13,712 R. G. Medland, of London, for the improvement of WATER WASTE PREVENTOR. Dated October 17, 1884.

13,830 F. H. Angles, of Blackburn, for certain improvements in apparatus for FLUSHING water closets. Dated October 20, 1884.

14,368 J. Holroyd and J. Lang, of London, for improvements in automatic flushing SPYHONS. Dated October 30, 1884.

14,463 E. L. Stacey, of Camden Town, London, for giving an after-flush to WATER-CLOSETS and other apparatus requiring an after-flow of fluid. Dated November 1, 1884.

14,511 F. Cuntz, of London, for INTERMITTENT FLUSHING APPARATUS. Dated November 3, 1884.

14,708 J. J. Day and T. I. Day, of Kentish Town, London, for an improved SPINDLE or FEATHER-VALVE for double or single flushing cisterns. Dated November 7, 1884.

14,728 J. Webber, of Greenwich, for a portable BATH, called the "Olynthion." Dated November 7, 1884.

14,742 J. Cornelius, of London, for self-cleansing CISTERNS (used for storing water for household and drinking purposes). Dated November 8, 1884.

14,796 T. B. Walter, of Liverpool, for improvements in flushing apparatus for WATER-CLOSETS and other purposes. Dated November 12, 1884.

#### Patents have been issued for the following:—

3,878 J. Smeaton, of London, for an improved WATER WASTE PREVENTING APPARATUS for water closets and such like purposes. Dated February 25, 1884.

10,460 E. Newton, of Hitchin, Herts, for an improved TRAP for water closets and other sanitary appliances. Dated July 22, 1884.

10,742 S. B. Goslin and J. J. Brown, of Cripplegate, London, for improvements in WATER CLOSET apparatus. Dated July 29, 1884.

#### MISCELLANEOUS.

13,538 C. H. Wood, of Sheffield, for improvements in the manufacture of TABLE CUTLERY. Dated October 14, 1884.

13,551 W. England, junior, of London, for an improved HANDLE FOR TOOLS. Dated October 14, 1884.

13,552 W. England, junior, of London, for improvements in the HANDLES of TABLE KNIVES, BUTCHERS' KNIVES, and other similar articles. Dated October 14, 1884.

13,554 R. C. Jones and J. W. Cunningham, of London, for improvement in LOCK FURNITURE. Dated October 14, 1884.

13,556 A. C. Carver, of London, for an improved WINDOW SASH FASTENER. Dated October 14, 1884.

13,574 H. Dinn and G. B. Richards, of London, for certain improvements in that description of carriage known as a PERAMBULATOR. Dated October 14, 1884.

13,605 H. Nance, of Liverpool, for improvements in or connected with LOCKS or LATCHES. Dated October 15, 1884.

13,608 G. Ball and C. Ball, of Birmingham, for TABLE TONGS for the distribution of food. Dated October 15, 1884.

13,631 T. Bradford, of London, for improvements in or applicable to IRONING MACHINES. Dated October 15, 1884.

13,635 D. Lindo, of London, for an improvement in TEA-POTS. Dated October 15, 1884.

13,636 F. Howcroft, a communication from E. C. Byam, for an automatic SASH LOCK. Dated October 15, 1884.

13,652 Z. Shrimpton, of Redditch, for improvements in CROCHET NEEDLES. Dated October 16, 1884.

13,668 S. Willett, of London, for improvements in DOOR HANDLES and their SPINDLES. Dated October 16, 1884.

13,724 H. Wilson and F. Woods, of New Radford, for a ROCKING PERAMBULATOR. Dated October 17, 1884.

13,740 C. Ibbotson, of Sheffield, for improvements in the manufacture of TABLE CUTLERY, such as knives, forks, and the like articles. Dated October 17, 1884.

13,773 G. H. Nash, of London, for improvements in drop down HANDLES. Dated October 17, 1884.

13,779 J. Walker, of Birmingham, for improvement in attaching DOOR KNOBS to the spindles. Dated October 18, 1884.

13,782 E. M. Knight, of Halifax, for improvements in FILTERS. Dated October 18, 1884.

13,786 H. Mainwaring, of Chorlton, Manchester, for improvements in hot water circulating CYLINDERS, and cold water TANKS, for supplying hot and cold water to baths. Dated Oct. 18, 1884.

13,868 A. J. Boulton, a communication from R. D. Green, of United States, for improvements in permutation LOCKS. Dated October 20, 1884.

13,874 G. Henderson and Dr. McNeil, of London, for improvements in WATER WASTE PREVENTERS. Dated October 20, 1884.

13,892 G. King, of Birmingham, for improvements in machinery for the manufacture of CUT NAILS and TACKS. Dated Oct. 21, 1884.

13,894 W. K. Fulleylove, of Rugby, for an improved KETTLE. Dated Oct. 21, 1884.

13,897 J. McDowall, of Glasgow, for improvements in apparatus for making CORKSCREWS and SCREWS for drawing, packing, and for similar purposes, a part of the improvements being also applicable to turning lathes. Dated October 21, 1884.

13,907 E. Newman, of Birmingham, for an improved window-sash FASTENER. Dated October 21, 1884.

13,928 G. W. Fox, of London, for improvements in the construction of sliver CANS. Dated October 21, 1884.

13,938 B. R. Jackson, of London, for improvements in BELLS known as repeating bells, and used for denoting, warning, call, or alarm. Dated October 21, 1884.



13,957 R. G. Owen, of London, for improvements in DUST PANS. Dated October 21, 1884.

14,005 H. J. Haddon, a communication from A. Clanberg and E. Butzmichlen, of Solinger, for improvement in combined POCKET-KNIVES and SCISSORS. Dated October 22, 1884.

14,024 J. Rhodes, of Birmingham, for an improved method of manufacturing brass BOLTS of various descriptions. Dated Oct. 23, 1884.

14,026 J. Bennett, of Dronfield, Derbyshire, for improvements in table CUTLERY. Dated October 23, 1884.

14,041 H. Whitfield and W. J. Gillott, of Birmingham, for improvements in the manufacture of safety BICYCLES. Dated October 23, 1884.

14,048 J. Everhard, of London, for an improved FIRE-IGNITER and BLOW-PIPE. Dated October 23, 1884.

14,058 S. Gurnery, of Epsom, for improvements in LOCKS and LATCHES. Dated October 23, 1884.

14,070 A. White, of Chorlton-on-Medlock, for improvements in CRUETS. Dated October 24, 1884.

14,108 J. Tanner, of Birmingham, for improvements in the manufacture of PICTURE, CUP, CURTAIN, and other metal hooks. Dated October 25, 1884.

14,150 J. Martin and J. C. Mineard, of London, for improvements in HANDLE fittings for drawers, flaps, and doors. Dated October 25, 1884.

14,236 L. Blumfeld, a communication from J. Gardner, of Warzburg, for improvements in SCISSORS, for detaching coupons, and for other purposes. Dated October 28, 1884.

14,283 W. J. Rae, of Warkworth, for improvements applicable to PERAMBULATOR-CARRIAGES. Dated October 29, 1884.

14,431 G. H. C. Robertson, of London, for improvements in LOCKS. Dated October 31, 1884.

14,444 W. B. Smith, of London, for improvements in TRICYCLES and BICYCLES. Dated October 31, 1884.

14,461 C. M. Walker, of Dulwich, for a new or improved KETTLE. Dated November 1, 1884.

14,505 C. H. Wood, of Sheffield, for improvements in the manufacture of TABLE CUTLERY. Dated October 11, 1884.

14,594 G. H. W. Alderson, of Brimington, for the purpose of securing a SLIDING DOOR, either open or closed, by means of a spring latch and cord attached to same. Dated November 5, 1884.

14,606 E. Horton, of Birmingham, for improvement in the manufacture of BRASS FENDERS. Dated November 7, 1884.

14,720 D. H. S. Brown, of London, for an improved construction of KETTLE. Dated November 7, 1884.

14,782 J. Green, of London, for an improved universal reversible SWING-COT of PERAMBULATOR. Dated November 10, 1884.

14,804 C. Ibbotson, of Sheffield, for improvements in the construction and manufacture of HANDLES for table cutlery, such as knives and forks, also the handles of sheath knives, umbrella and walking sticks, and the like articles. Dated November 10, 1884.

14,945 J. T. Armstrong and C. Lea, of Hanley, for an improved TEAPOT LID. Dated November 13, 1884.

14,952 J. H. Hunt, of Birmingham, for improvements in BELLS or GONGS. Dated November 13, 1884.

14,956 A. J. Beal, of London, for improvements in the manufacture of GUARD FORKS. Dated November 13, 1884.

14,984 W. Edwards, of London, for improvements in BOLTS. Dated November 13, 1884.

#### Patents have been issued for the following:—

164 F. Lea, of Buckingham-street, Strand, London, for improvements in lever catch fasteners for WINDOWS. Dated Jan. 1, 1884.

408 T. Parkes, of Bilston, Staffordshire, for improvements in SPADES, SHOVELS, and EDGE TOOLS. Dated January 2, 1884.

469 E. Verity, J. M. Verity, and B. Banks, all of Leeds, for an improved means of opening, closing, and staying in any required position, WINDOWS, skylights, dampers, ventilators, and such like things. Dated January 2, 1884.

799 E. H. Harling, of Brown-street, Bryanstone-square, London, for improvements in window fasteners. Dated January 5, 1884.

1,830 W. H. Tonks, of Birmingham, and J. Burn, of Sparkhill, near Birmingham, for improvements in the manufacture of hat, coat, and wardrobe HOOKS and RAILS. Dated January 21, 1884.

2,045 J. Lowley and J. Harold, both of Battersea, London, for improved apparatus for opening and closing of all the LATCHES or BOLTS of a door simultaneously. Dated January 24, 1884.

2,123 G. Plumpton, of Warrington, Lancashire, for a new or improved COMBINATION TOOL for use by gas fitters and others. Dated January 25, 1884.

2,161 E. Jansen, A. Böntgen, and L. Sabin, all of Solingen, Germany, for improvements in POCKET KNIVES. Dated Jan. 25, 1884.

2,399 D. Lindon, of South-street, Finsbury, London, for improvements in TEA POTS. Dated January 30, 1884.

2,845 J. E. Walton, of Stoke Newington, London, for an improved CORNSCREW. Dated February 6, 1884.

3,120 A. Nicholas, of Handsworth, Staffordshire, for a new

9,904 H. J. Haddon, a communication from L. Colasott, of Frenchville, France, for improvements in BALANCES. Dated July 8, 1884.

9,976 J. H. Johnson, a communication from Varicle and Co., and M. M. F. Moulin, all of Paris, for improvements in secret or combination LOCKS or fastenings. Dated July 9, 1884.

10,049 A. Besson, of Paris, for improvements in STOVES. Dated July 11, 1884.

10,050 J. Berliner and H. Ziegler, of Berlin, for improvements in CANDLE CLAMPS or holders for candlesticks, candelabras, and such like. Dated July 11, 1884.

10,363 A. J. Boulton, a communication from C. H. Olson, of Decatur Macon, Illinois, United States, for SCREW DRIVERS. Dated July 13, 1884.

#### SPECIFICATIONS PUBLISHED DURING THE MONTH.

POSTAGE ONE PENNY EACH EXTRA.—1879.

5,682 (Amended Specification) J. White, velocipedes, 8d.

2,853 (Amended specification) C. Dable, metal handles for knives, forks, &c., 6d. 1883.

15 J. A. Walter, locks, 6d.

140 J. Shaw, tricycles, 6d.

147 M. M. Brophy, water heating apparatus, 6d.

162 W. Bevan, bicycle safety attachment for learners, 4d.

178 S. Martin, tricycles, &c., 6d.

180 W. H. Baraclough, flushing water closets, &c., 10d.

182 S. Martin, velocipedes, 6d.

326 J. Smith, fire places and grates, 4d.

373 H. J. Haddon, combination tools, 4d.

372 H. Salsbury, lamps, &c., 6d.

390 J. Smith, perambulators, 6d.

407 F. T. Bond, stoves, 6d.

487 W. Woolley, saddles for bicycles, &c., 6d.

512 J. Dean, self-acting open fire ranges, 4d.

571 H. M. Ashley, kitchen range and cooking apparatus, 4d.

607 B. Carr, velocipedes, 8d.

657 T. W. Twyford, connecting supply apparatus with water closet basins, 4d.

659 T. Barrow and C. H. Berry, cooking stove, 6d.

662 W. Bell, burner apparatus for gas fires, 4d.

684 C. W. Wasbrough and J. S. Stroud, velocipedes, 6d.

723 S. Smith, cooking ranges, 4d.

730 T. Shepherd and J. D. Hodgson, knife cleaning apparatus, 4d.

809 T. Fletcher, heating water by gas, 6d.

887 S. Reeve, warming and ventilating apartments, &c., 6d.

1,046 H. Sutcliffe, water closets, &c., 6d.

1,080 W. Dunkley, perambulators, &c., 6d.

1,290 A. Foley, chimney breasts, grates, &c., 6d.

1,339 J. Hodgson, window sash fasteners, &c., 6d.

1,558 R. Wright, preventing smoke in open fire places, 4d.

1,810 C. J. Hart, handles for bicycles, &c., 4d.

2,283 J. Lee and E. Whittington, dwarf safety bicycle, 6d.

3,546 J. Deeley, flushing apparatus, &c., for water closets, &c., 8d.

3,802 T. Taylor, lamps, 8d.

7,546 S. Pickersgill, open fire grates or stoves, 4d.

7,610 G. H. and H. W. Chubb, door locks and latches, 6d.

7,739 A. Purkess, earth closet apparatus, 4d.

8,615 W. Daniell, oil lamps and chandeliers, 6d.

9,857 F. Cuntz, flushing apparatus, 6d.

10,754 E. W. Buller, locks, spindles, &c., 4d.

10,853 J. B. and G. D. Brendon, cupboard fasteners, 4d.

11,175 C. Pietz, attachment for gas burners, 4d.

11,519 A. Martin, trimming lamp wicks, 4d.

11,532 M. C. Harvey, wire raisers, 4d.

11,680 W. K. Maguire, filling and emptying wash-hand basins, &c., 4d.

12,115 J. Y. Johnson, locks, &c., 6d.

12,173 W. P. Thompson, saddles for bicycles, 6d.

12,183 H. J. Allison, sewing machines, 6d.

12,449 A. C. Henderson and F. N. Cookson, bicycles, &c., 6d.

12,450 A. C. Henderson and F. N. Cookson, tricycle, 4d.

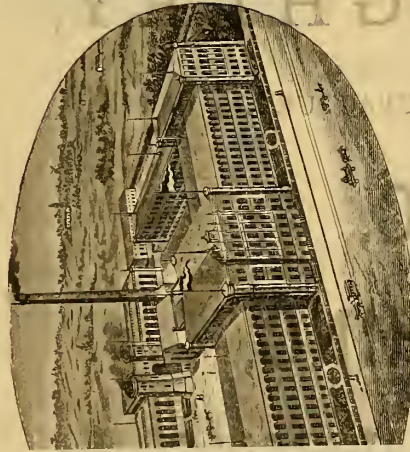
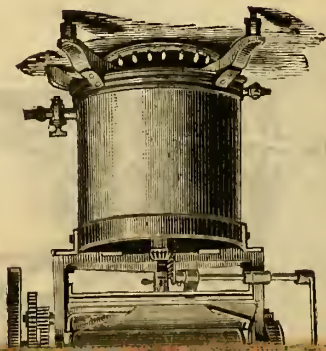
*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

MR. H. J. LEWIS, who has been travelling through South America in the interest of the White Sewing Machine Company, has brought back with him upon his return a number of curiosities which he exhibits to his admiring friends. Among them is one in which a horrible



Illustrated Catalogues and Price Lists on application.

SEWING MACHINES, &c.



SEIDEL & NAUMANN'S

New High-Arm Sewing Machines,

On the Singer principle, fitted with a New splendid

PATENT BUTTON-HOLE APPARATUS,

And all other valuable

Attachments and Improvements.

NEW! PATENTED IN ALL COUNTRIES. NEW!

iam, Dresden, Germany.

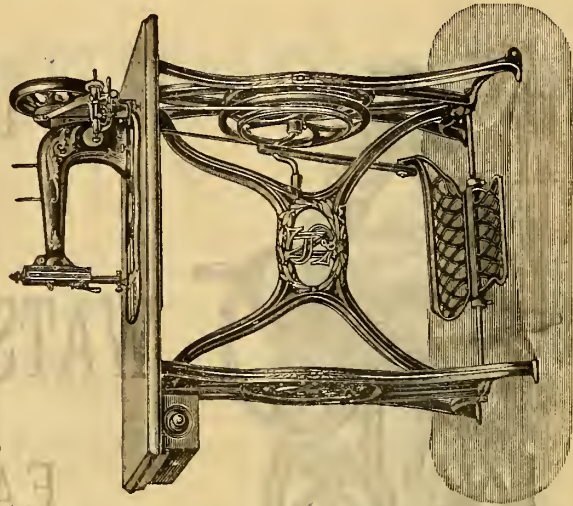
Im- proved SEWING MACHINES are world- AND FIRST CLASS WORKMANSHIP. They are the most st durable and finished, the completest in ATTACH- do the most PERFECT WORK, and are the most

rivalled NEW HIGH-ARM MACHINES in family these qualities, the advantage of a HEAVIER FLYING UNDER-ARM. A splendid perfect and cheap

BUTTON-HOLE APPARATUS

eful of all sewing machines in the world.

ES ISSUED YEARLY.



Naumann's New High-arm Medium Machine, with Button-hole Apparatus.



- 13,957 R. G. Owen, of London, for improvements in **BUST PANS**. Dated October 21, 1884.
- 14,005 H. J. Haddon, a communication from A. Clanberg and E. Butzmichen, of Solinger, for improvement in combined **POCKET-KNIVES and SCISSORS**. Dated October 22, 1884.
- 14,024 J. Rhodes, of Birmingham, for an improved method of manufacturing brass **BOLTS** of various descriptions. Dated Oct. 23, 1884.
- 14,026 J. Bennett, of Dronfield, Derbyshire, for improvements in table **CUTLERY**. Dated October 23, 1884.
- 14,041 H. Whitfield and W. J. Gillott, of Birmingham, for improvements in the manufacture of safety **BICYCLES**. Dated October 23, 1884.
- 14,048 J. Everhard, of London, for an improved **FIRE-IGNITER and BLOW-PIPE**. Dated October 23, 1884.
- 14,058 S. Gurnery, of Epsom, for improvements in **LOCKS and LATCHES**. Dated October 23, 1884.
- 14,070 A. White, of Chorlton-on-Medlock, for improvements in **CRUETS**. Dated October 24, 1884.
- 14,108 J. Tanner, of Birmingham, for improvements in the manufacture of **PICTURE, CUP, CURTAIN, and other metal hooks**. Dated October 25, 1884.
- 14,150 J. Martin and J. C. Mineard, of London, for improvements in **HANDLE fittings** for drawers, flaps, and doors. Dated October 25, 1884.
- 14,236 L. Blumfeld, a communication from J. Gardner, of Wurzburg, for improvements in **SCISSORS**, for detaching coupons, and for other purposes. Dated October 28, 1884.
- 14,283 W. J. Rae, of Warkworth, for improvements applicable to **PERAMBULATOR-CARRIAGES**. Dated October 29, 1884.
- 14,431 G. H. C. Robertson, of London, for improvements in **LOCKS**. Dated October 31, 1884.
- 14,444 W. B. Smith, of London, for improvements in **TRICYCLES and BICYCLES**. Dated October 31, 1884.
- 14,461 C. M. Walker, of Dulwich, for a new or improved **KETTLE**. Dated November 1, 1884.
- 14,505 C. H. Wood, of Sheffield, for improvements in the manufacture of **TABLE CUTLERY**. Dated October 11, 1884.
- 14,594 G. H. W. Alderson, of Brimington, for the purpose of securing a **SLIDING DOOR**, either open or closed, by means of a spring latch and cord attached to same. Dated November 5, 1884.
- 14,696 E. Horton, of Birmingham, for improvement in the manufacture of **BRASS FENDERS**. Dated November 7, 1884.
- 14,720 D. H. S. Brown, of London, for an improved construction of **KETTLE**. Dated November 7, 1884.
- 14,782 J. Green, of London, for an improved universal reversible **SWING-COT** or **PERAMBULATOR**. Dated November 10, 1884.
- 14,804 C. Ibbotson, of Sheffield, for improvements in the construction and manufacture of **HANDLES** for table cutlery, such as knives and forks, also the handles of sheath knives, umbrella and walking sticks, and the like articles. Dated November 10, 1884.
- 14,945 J. T. Armstrong and C. Lea, of Hanley, for an improved **TEAPOT LID**. Dated November 13, 1884.
- 14,952 J. H. Hunt, of Birmingham, for improvements in **BELLS or GONGS**. Dated November 13, 1884.
- 14,956 A. J. Beal, of London, for improvements in the manufacture of **GUARD FORKS**. Dated November 13, 1884.
- 14,984 W. Edwards, of London, for improvements in **BOLTS**. Dated November 13, 1884.

**Patents have been issued for the following:—**

- 164 F. Lea, of Buckingham-street, Strand, London, for improvements in lever catch fasteners for **WINDOWS**. Dated Jan. 1, 1884.
- 408 T. Parkes, of Bilston, Staffordshire, for improvements in **SPADES, SHOVELS, and EDGE TOOLS**. Dated January 2, 1884.
- 469 E. Verity, J. M. Verity, and B. Banks, all of Leeds, for an improved means of opening, closing, and staying in any required position, **WINDOWS, skylights, dampers, ventilators, and such like things**. Dated January 2, 1884.
- 799 E. H. Harling, of Brown-street, Bryanstone-square, London, for improvements in window fasteners. Dated January 3, 1884.
- 1,830 W. H. Tonks, of Birmingham, and J. Burn, of Sparkhill, near Birmingham, for improvements in the manufacture of hat, coat, and wardrobe **HOOKS and RAILS**. Dated January 21, 1884.
- 2,045 J. Lowley and J. Harold, both of Battersea, London, for improved apparatus for opening and closing of all the **LATCHES or BOLTS** of a door simultaneously. Dated January 24, 1884.
- 2,123 G. Plumpton, of Warrington, Lancashire, for a new or improved **COMBINATION TOOL** for use by gas fitters and others. Dated January 25, 1884.
- 2,161 E. Jansen, A. Böntgen, and L. Sabin, all of Solingen, Germany, for improvements in **POCKET KNIVES**. Dated Jan. 25, 1884.
- 2,399 D. Lindon, of South-street, Finsbury, London, for improvements in **TEA POTS**. Dated January 30, 1884.
- 2,845 J. E. Walton, of Stoke Newington, London, for an improved **CORRSCREW**. Dated February 6, 1884.
- 3,129 A. Nicholas, of Handsworth, Staffordshire, for a new **REPEATER ACTION**, to be used for striking rapidly call, bicycle, and other bells. Dated February 12, 1884.
- 3,545 J. Southall, of Worcester, for improvements in **DUMB BELLS**. Dated February 19, 1884.
- 3,759 C. Ibbotson, of Sheffield, for improvements in the construction and manufacture of **SCISSORS and SHEARS**. Dated February 22, 1884.
- 3,818 C. Ibbotson, of Sheffield, for improvements in the construction and manufacture of **RAZORS**. Dated February 23, 1884.
- 3,972 G. A. Harvey, of Lewisham, London, for the improvement of **CHIMNEY POTS and VENTILATORS**. Dated February 26, 1884.
- 4,745 W. Brandon, of Birmingham, for an improved **TEA POT**. Dated March 12, 1884.
- 6,785 J. H. King, of Liverpool, for improvements in **KEYS, and in appliances** for assisting in using the same. Dated April 25, 1884.
- 8,326 F. E. Taylor, of Birmingham, for an adjustable **LOCK or fastening**. Dated May 28, 1884.
- 9,188 M. E. Rochfort, of Kilburn, London, for an improved **GARREN TROWEL and planter**. Dated June 19, 1884.

- 9,904 H. J. Haddon, a communication from L. Colasott, of Frenchville, France, for improvements in **BALANCES**. Dated July 8, 1884.
- 9,976 J. H. Johnson, a communication from Varicle and Co., and M. M. F. Moulin, all of Paris, for improvements in secret or combination **LOCKS or fastenings**. Dated July 9, 1884.
- 10,049 A. Besson, of Paris, for improvements in **STOVES**. Dated July 11, 1884.
- 10,050 J. Berliner and H. Ziegler, of Berlin, for improvements in **CANDLE CLAMPS or holders** for candlesticks, candelabras, and such like. Dated July 11, 1884.
- 10,363 A. J. Boulton, a communication from C. H. Olson, of Decatur Macon, Illinois, United States, for **SCREW DRIVERS**. Dated July 13, 1884.

**SPECIFICATIONS PUBLISHED DURING THE MONTH.**

POSTAGE ONE PENNY EACH EXTRA.—1879.

- 5,682 (Amended Specification) J. White, velocipedes, 8d. 1883.
- 2,853 (Amended specification) C. Dable, metal handles for knives, forks, &c., 6d. 1884.
- 15 J. A. Walter, locks, 6d.
- 140 J. Shaw, tricycles, 6d.
- 147 M. M. Brophy, water heating apparatus, 6d.
- 162 W. Bevan, bicycle safety attachment for learners, 4d.
- 178 S. Martin, tricycles, &c., 6d.
- 180 W. H. Baraclough, flushing water closets, &c., 10d.
- 182 S. Martin, velocipedes, 6d.
- 326 J. Smith, fire places and grates, 4d.
- 373 H. J. Haddon, combination tools, 4d.
- 372 H. Salsbury, lamps, &c., 6d.
- 390 J. Smith, perambulators, 6d.
- 407 F. T. Bond, stoves, 6d.
- 487 W. Woolley, saddles for bicycles, &c., 6d.
- 512 J. Dean, self-acting open fire ranges, 4d.
- 571 H. M. Ashley, kitchen range and cooking apparatus, 4d.
- 607 B. Carr, velocipedes, 8d.
- 657 T. W. Twyford, connecting supply apparatus with water closet basins, 4d.
- 659 T. Barrow and C. H. Berry, cooking stove, 6d.
- 662 W. Bell, burner apparatus for gas fires, 4d.
- 684 C. W. Wasbrough and J. S. Stroud, velocipedes, 6d.
- 733 S. Smith, cooking ranges, 4d.
- 730 T. Shepherd and J. D. Hodgson, knife cleaning apparatus, 4d.
- 809 T. Fletcher, heating water by gas, 6d.
- 887 S. Reeve, warming and ventilating apartments, &c., 6d.
- 1,046 H. Sutcliffe, water closets, &c., 6d.
- 1,080 W. Dunkley, perambulators, &c., 6d.
- 1,290 A. Foley, chimney breasts, grates, &c., 6d.
- 1,339 J. Hodgson, window sash fasteners, &c., 6d.
- 1,558 R. Wright, preventing smoke in open fire places, 4d.
- 1,810 C. J. Hart, handles for bicycles, &c., 4d.
- 2,283 J. Lee and E. Whittington, dwarf safety bicycle, 6d.
- 3,546 J. Deely, flushing apparatus, &c., for water closets, &c., 8d.
- 3,802 T. Taylor, lamps, 8d.
- 7,546 S. Pickersgill, open fire grates or stoves, 4d.
- 7,610 G. H. and H. W. Chubb, door locks and latches, 6d.
- 7,739 A. Purkess, earth closet apparatus, 4d.
- 8,615 W. Daniell, oil lamps and chandeliers, 6d.
- 9,857 F. Cuntz, flushing apparatus, 6d.
- 10,754 E. W. Buller, locks, spindles, &c., 4d.
- 10,853 J. B. and G. D. Brendon, cupboard fasteners, 4d.
- 11,175 C. Pietz, attachment for gas burners, 4d.
- 11,519 A. Martin, trimming lamp wicks, 4d.
- 11,552 M. C. Harvey, wick raisers, 4d.
- 11,680 W. K. Maguire, filling and emptying wash-hand basins, &c., 4d.
- 12,115 J. Y. Johnson, locks, &c., 6d.
- 12,173 W. P. Thompson, saddles for bicycles, 6d.
- 12,183 H. J. Allison, sewing machines, 6d.
- 12,449 A. C. Henderson and F. N. Cookson, bicycles, &c., 6d.
- 12,450 A. C. Henderson and F. N. Cookson, tricycle, 4d.

**The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.**

Mr. H. J. LEWIS, who has been travelling through South America in the interest of the White Sewing Machine Company, has brought back with him upon his return a number of curiosities which he exhibits to his admiring friends. Among them is one in which a horrible interest is centred. The Indians of certain sections of South America, when they kill an enemy in battle, cut off the victim's head and put it through some kind of a process of compression between heated stones, until it is reduced to the size of a common doll's head, in which the features are retained and the hair remains perfect. This beautiful ornament is worn suspended from the victor's neck, and he points with pride to the dangling head of his enemy. It has always been difficult to procure one of these compressed, mummified heads, but Mr. Lewis got a favourable opportunity and took advantage of it. He is now exhibiting it to his many friends and acquaintances at his home in Coldwater, Michigan. It strikes terror to the hearts of the ladies, but the gentlemen, especially those who belong to the sewing machine craft, regard the curiosity with equanimity.







**NEW! Greatest Success of NEW! SEWING MACHINES MANUFACTORY NEW! our Days.**

**SEIDEL & NAUMANN'S**  
New High-Arm Sewing Machines,

On the Singer Principle, fitted with a New splendid

**PATENT BUTTON-HOLE APPARATUS,**

And all other valuable

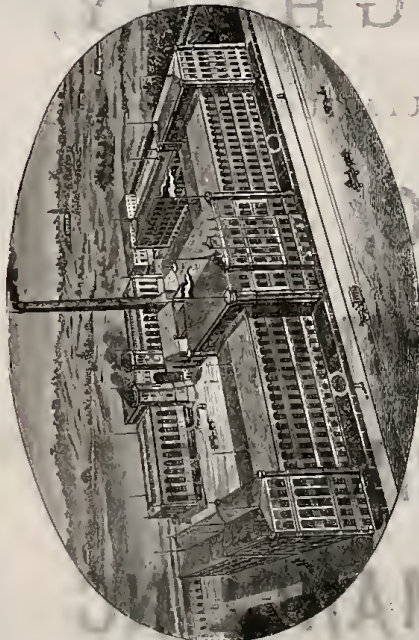
*Attachments and Improvements.*

**NEW! PATENTED IN ALL COUNTRIES. NEW!**

**Seidel and**

**Naumann, Dresden,**

**Germany.**



**SEIDEL & NAUMANN'S**

New High-Arm Sewing Machines,

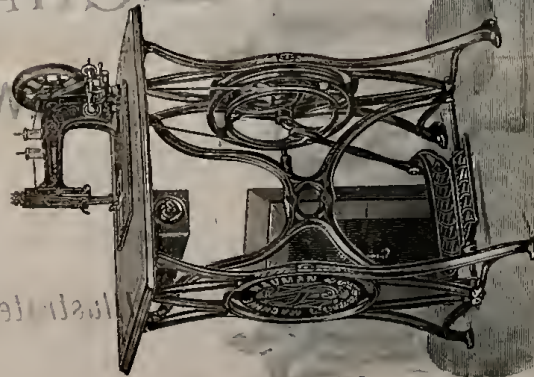
On the Singer principle, fitted with a New splendid

**PATENT BUTTON-HOLE APPARATUS,**

And all other valuable

*Attachments and Improvements.*

**NEW! PATENTED IN ALL COUNTRIES. NEW!**



Naumann's New High-arm Family Machine, with Button-hole Apparatus.

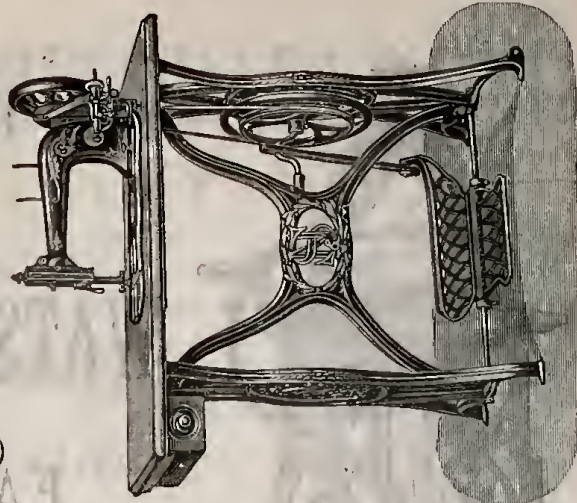
**S** EIDEL & NAUMANN'S highly-improved SEWING MACHINES are world-renowned for their ELEGANCE AND FIRST CLASS WORKMANSHIP. They are the most silent and lightest running, the most durable and finished, the completest in ATTACHMENTS AND IMPROVEMENTS. They do the most PERFECT WORK, and are the most RELIABLE in the Market.

SEIDEL & NAUMANN'S univalued NEW HIGH-ARM MACHINES in family and medium size possess, with all these qualities, the advantage of a HEAVIER FLYING WHEEL and a LARGER UNDER-ARM. A splendid perfect and cheap

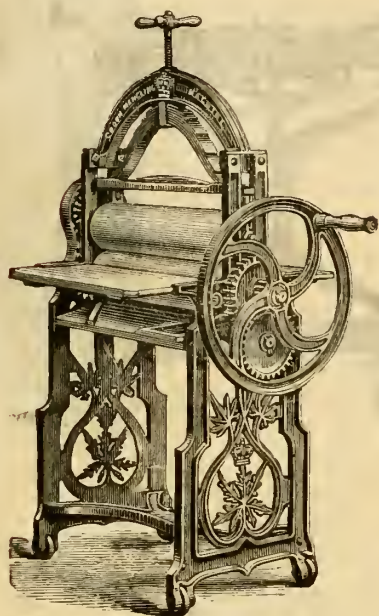
**PATENT BUTTON-HOLE APPARATUS**

Makes them the most useful of all sewing machines in the world.

**70,000 MACHINES ISSUED YEARLY.**



Naumann's New High-arm Medium Machine, with Button-hole Apparatus.



ESTABLISHED 1859.

**WATSON & WHALLEY**

**EAGLE WORKS,**

**KEIGHLEY,**

MANUFACTURERS OF

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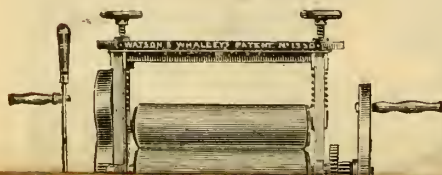
**WRINGING,**

AND

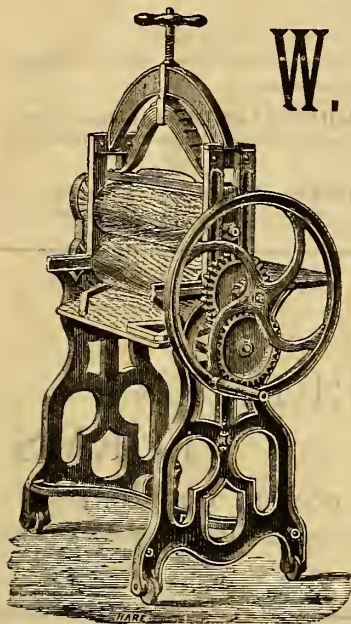
**MANGLING**

**MACHINES,**

**CHAFF CUTTERS,**



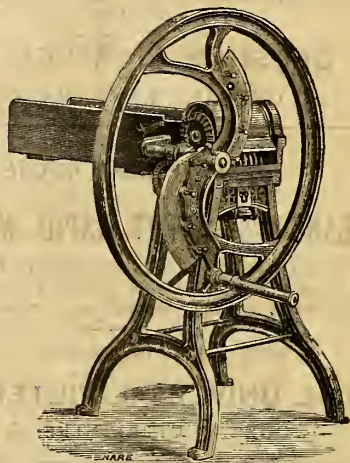




# W. SUMMERSCALES & SONS, KEIGHLEY, YORKSHIRE,

Are the most extensive Manufacturers of

## WASHING, WRINGING, AND MANGLING MACHINES



In the United Kingdom.

ALSO MAKERS OF

Chaff Cutters, Turnip Slicers, Turnip Pulpers, Oil Cake Mills, Engineers'  
Parallel Vices, Joiners' Bench Vices, &c., &c.



**L**OCKSTITCH MACHINE, Queen, new, in case, dozen accessories. Price 37s. 6d. Deposit—Ada, Dorchester Villa, Kingston, Surrey.

**K**NITTER, Automatic, rubber stand, extra cylinder. Sell whole or part.—16, Rectory Road, Canton, Cardiff.

**H**IRE CARDS, One Shilling per dozen, post free. Office of Sewing Machine Gazette, St. Paul's Buildings, Paternoster Row, E.C. N.B.—These cards are superior to those hitherto supplied, and are bound with cloth so as to avoid being torn in use. The vendor's name printed on the front page at a nominal extra charge.

**H**ARPER TWELVETREES' Villa Washer, good condition; cost £5 5s.; price 50s., or others.—Wimpres, 9, Howlett Road, Bow, London, E.

**B**IRKBECK BANK.—Southampton Buildings, Chancery Lane.—Current Accounts opened according to the usual practice of other Bankers, and interest allowed on the minimum monthly balances when not drawn below £50. No commission charged for keeping Accounts, excepting under special circumstances. The Bank undertakes for its Customers, free of charge, the custody of Bonds, Writings, and other Securities and Valuable; the purchase and sale of Stocks, Shares, and Annuities. A Pamphlet, with full particulars, on application. FRANCIS KAVENSCROFT, Manager. March 31st, 1884.

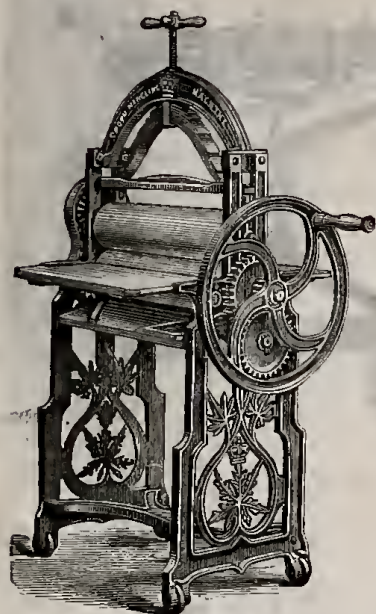
**The Birkbeck Building Society's Annual Receipts exceed Five Millions.**

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A pamphlet, with full particulars, on application. FRANCIS KAVENSCROFT, Manager. March 31st, 1884.

**S**outhampton Buildings, Chancery Lane.



ESTABLISHED 1859.

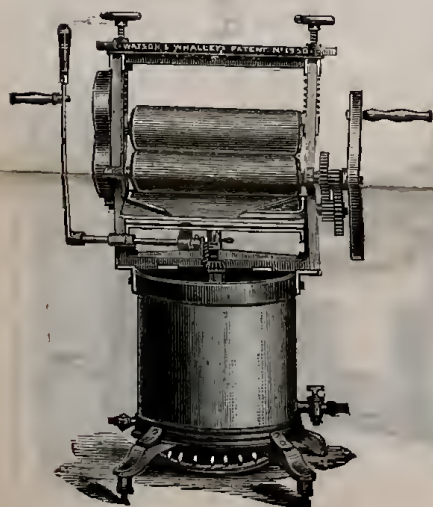
# WATSON & WHALLEY

## EAGLE WORKS, KEIGHLEY,

MANUFACTURERS OF



SEWING,  
WASHING,  
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AND  
MANGLING  
MACHINES,  
CHAFF CUTTERS,



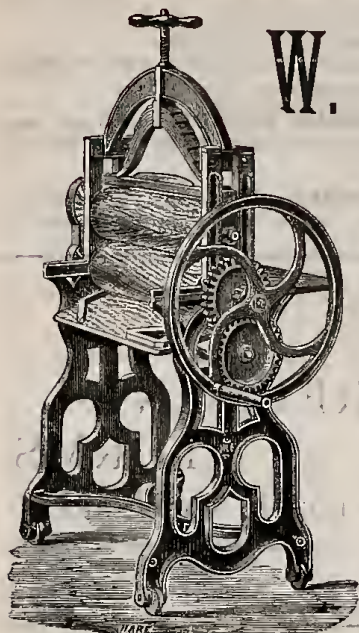
SEWING MACHINES, &c.

*Illustrated Catalogues and Price Lists on  
application.*





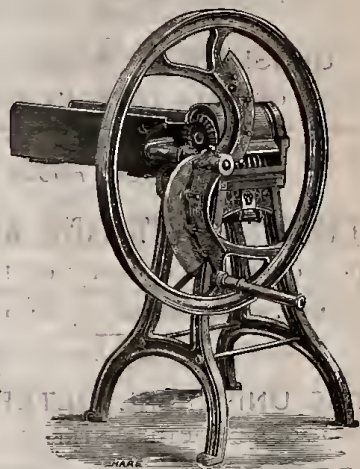




# W. SUMMERSCALES & SONS, KEIGHLEY, YORKSHIRE,

Are the most extensive Manufacturers of

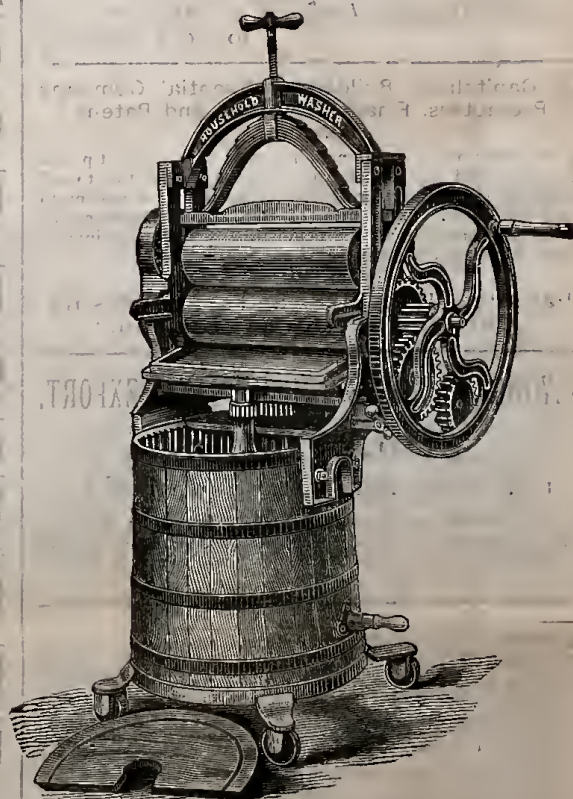
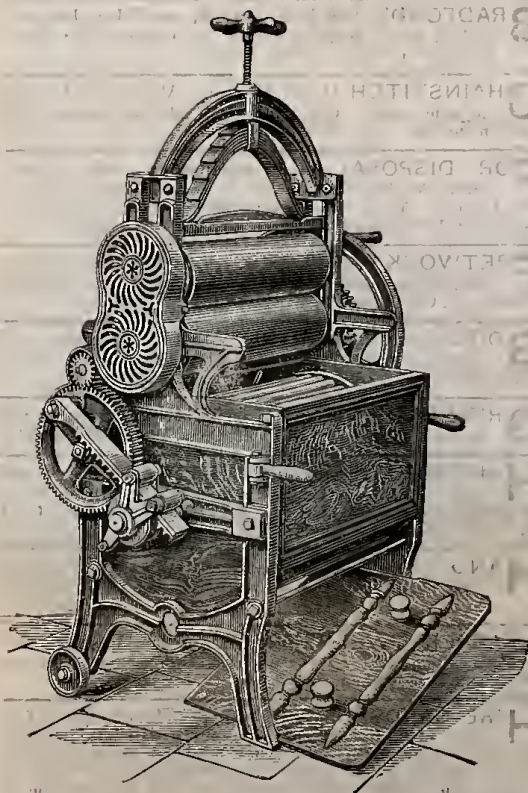
## WASHING, WRINGING, AND MANGLING MACHINES



In the United Kingdom.

ALSO MAKERS OF

Chaff Cutters, Turnip Slicers, Turnip Pulpers, Oil Cake Mills, Engineers'  
Parallel Vices, Joiners' Bench Vices, &c., &c.



THE TRADE ONLY SUPPLIED.

Catalogues, &c., Free on Application.



## Family and Medium Machine Parts.

IN consequence of our discontinuing the manufacture of these Sewing Machines, we offer for SALE, at very low prices,

OUR ENTIRE STOCK OF PARTS,

Particulars, Samples, and Prices of which may be obtained on application at the Works.

**GRESHAM & CRAVEN, Engineers,**  
ORDSALL LANE, MANCHESTER.

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## LONDON'S PATENT RAPID WATER FILTER

IS ECONOMICAL, CLEANLY, RELIABLE, and cannot get out of order. It purifies a quart of water in two minutes by ascension through pure animal charcoal.

Retail Price, 6s. 6d. Liberal Trade Discount.

**THE UNIVERSAL FILTER COMPANY,**  
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### SPECIAL NOTICE TO THE TRADE.

SOLE DEPOT FOR THE

"VICTORIA" & "DOLLY VARDEN" MACHINE,  
2, Princes Street, Barbican, London.

### SEWING MACHINE PARTS SUPPLIED

For the "Victoria," "Dolly Varden," "Home Shuttle," and "Kimball and Morton" Machines.

New Illustrated Price List on Application.

J. JOUNCEY, Manager.

To Capitalists, Builders, Influential Company Promoters, Financial Agents, and Patent Vendors.

THE owner of a fully-patented invention of the highest public utility and commercial value desires co-operation to sell the patent right or to form a first-class limited Company to work the same. To a firm of Builders, Contractors, or Builders' Manufacturers, the acquisition would prove invaluable. Immense fortune certain.

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Patentee, Box 1,128, Sell's Advertising Offices, Fleet Street, London.

## SEWING MACHINES—IMPORT AND EXPORT.

### EMILE JAMES,

190, Blecker Street, New York, U.S.A.,

Importer of European Special Machines; Exporter of American Sewing Machines and attachments of every description, and all kinds of American Goods. Sole Agent for the Exports of different Companies.

LATHES for Sewing Machines, Repair Shops.

LATHES for all Trades.

LATHES for Amateurs from £2 15s. to £250.

LATHES and Fret Saws; 160 varieties.—Britannia Company, Engineers' Tool Makers, Colchester.

SEWING MACHINE STANDS, any design made in quantities at special prices.—Britannia Company, Colchester.

SINGER MACHINES.—We are open to sell for cash at special terms; state quantity.—Britannia Company, Colchester.

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Office of this Paper, St. Paul's Buildings, Paternoster Row, E.C.

## MISCELLANEOUS ADVERTISEMENTS

Prepaid Advertisements under this head are inserted at a charge of 2s., when not exceeding four lines; subsequent lines 6d. per line. Subscribers' advertisements half price.

AGENTS Wanted, to push first-class Machinery Oils, commanding a large and successful sale; liberal commission. Box 322, Post Office, Liverpool.

AUTOMATIC HAND (Wilcox and Gibbs'), £3 15s.; Singer's, £2 5s.—4, Nile Street, Shepherdess Walk, City Road.

BRADFORD'S Washer, Wringer, and Mangler, 26-in. rollers, brass capped, Vowel A E, all sound; cost £9 9s.; price £3 10s.—80, Hanover Street, Hanley.

CHAINSTITCH Hand Machine (Wilcox and Gibbs). In perfect order. Cost £5 5s.; will take 25s.—KINGS, Hazel Lea, Cheltenham.

FOR DISPOSAL.—A prosperous and lucrative Sewing Machine Business, in a beautiful locality twenty miles from London. May be worked with small capital.—For particulars, apply to H. R. BUTCHER, 30, Queen Street, Maidenhead.

FRETWORK PATTERNS.—Fifty full sized fretwork patterns, good designs, brackets, wheelbarrows, &c. Price 9d.—Dixon, 18, Clyde Road, Redland, Bristol.

GOOD Lockstitch Sewing Machine, perfect, with sundries. Lately cost £4; cash 35s., bargain.—R. EMERY, Walthamstow.

GRISWOLD KNITTING MACHINE (small) wanted for cash, cheap.—Mrs. HOLLES, Quay, Waterford, Ireland.

HANDSOME single round back Perambulator, bicycle wheels, apron, and canopy, by Johnson, New Oxford Street, in thorough repair; cost 48s. 6d., sell 25s. Can be seen—C. H., 28, Budge Row, Cannon Street, City.

HAND Silent Sewing Machine (Wilcox and Gibbs), silver plated, and same as new, warranted splendid worker, not automatic. Price 50s. only.—A. J. Kelley's Library, Gray's Inn.



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**MANAGER or TRAVELLER;** 14 years' general experience; aged 30; accustomed to country travelling; good references.—H. BOSCOMBE, Salisbury.

**SEWING MACHINE Wanted** (Wheeler & Wilson) in perfect order, original make preferred.—7, King's Road, Chelsea.

**SINGER** principle Sewing Machine. Medium. Cost £7 7s. two years ago; price 50s.. Particulars of GOODYEAR, New Road, Spalding.

**SITUATION Wanted as Manager of Sewing Depot.** Age 38 years, having had twenty years' experience among sewing machines. Repairing and salesman, canvassing, &c. No objection to going abroad.—Apply to W. WALKER, Holbeck Station, near Leeds.

**SPLENDID** Wilcox Gibbs' Silent Treadle. Cost £5 5s.; price only 50s.—J. OSMAN, Poole.

**THE NEW WHITE HAND MACHINE,** silver plated, latest improvements, perfect working order, extras, nice machine box, brand new; cost £4 10s.; cash £2 10s.; approval.—T. CHENHALL, Tavistock.

**TRAVELLER** required by Richard Evered & Co., Limited, to call on Gasfitters, Plumbers, Bellhangers, Engineers, &c., in London and suburbs; a gentleman of good experience and a thorough knowledge of the trade required.—Apply by letter, stating age, experience, and salary required, to Mr. R. B. EVERED, 28, Drury Lane, W.C.

**TREADLE SEWING MACHINE** (Grover & Bakers). Cost £8; sell for £2.—HENDERSON, Harcourt House, Harrow.

**WANZERA** £4 4s. Hand Lockstitch Sewing Machine, in box, complete, quite new. Price £3 cash.—H. L. ENGLAND, Castle Lodge, Taunton.

*It is particularly requested that all communications relating to the "Journal of Domestic Appliances and Sewing Machine Gazette" may be addressed to the Proprietor, Mr. FRANK ALLNUTT, St. Paul's Buildings, Paternoster Row, London, E.C., and that all Cheques may be made payable to him, and crossed "London and County Bank."*

## The Sewing Machine Gazette.

and merchants with whom we do business, are being searched, and from these we are extracting lists of a complete character. Nearly all these directories are for the current year, some few only being for 1883. Hence we are certain of being able to ensure the greatest possible accuracy, and by that means to reach, as we have stated, every member of the trade, however indirectly he may be acquainted with it.

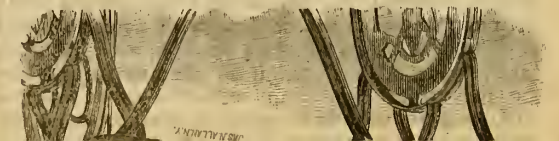
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It is sometimes said that promises of newspaper publishers and editors should be accepted not only *cum grano salis*, but also as far more brittle than the proverbial pie crust. In answer to that anticipated criticism of our scheme, we would simply say that we ask no one to take our word for anything. The lists as sent in are open to the inspection of any person who can give a reasonable explanation of his desire to see them, though, of course, as they are of considerable value, being compiled from sources, many of which are purely exclusive and at considerable expense, we do not allow copies to be taken. Free inspection at any time, on due notice, will answer any reasonable requirement of the most sceptical, and we cordially invite customers and others who contemplate making use of our columns to accept this offer literally, and satisfy themselves of its *bona fides* before pledging themselves in any way. We are prepared to enclose in this issue prospectuses, price lists, &c., on equitable terms, which will be found on calculation to be less than the actual cost of postage would be if sent out direct by the firms in separate wrappers, in addition to which the advantage is gained of opening out new connections and addressing new classes of readers and customers.

A word in conclusion to managers of depots. In endeavouring to develop this paper we are fervently hoping for the kindly assistance and support of managers of sewing machine depots throughout the

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enormous building 445-ft. long by 365-ft. broad. "C.S." is the foundry store, another large building about 300-ft. long by 100-ft. broad, while "D." is the department in which the japanning and ornamenting of the machine stands are carried on. This is some 300-ft. long by 200-ft. in width. The shipping and storing department marked "E." is also exceedingly large, measuring 375-ft. by over 100 in width. The packing department





## Family and Medium Machine Parts.

IN consequence of our discontinuing the manufacture of these Sewing Machines, we offer for SALE, at very low prices,

OUR ENTIRE STOCK OF PARTS,

Particulars, Samples, and Prices of which may be obtained on application at the Works.

**GRESHAM & CRAVEN, Engineers,**

ORDSALL LANE, MANCHESTER.

## THE UNIVERSAL HOUSE FILTER.

### LONDON'S PATENT RAPID WATER FILTER

IS ECONOMICAL, CLEANLY, RELIABLE, and cannot get out of order. It purifies a quart of water in two minutes by ascension through pure animal charcoal.

Retail Price, 6s. 6d. Liberal Trade Discount.

**THE UNIVERSAL FILTER COMPANY,**

35, QUEEN VICTORIA STREET, LONDON, E.C.

## SPECIAL NOTICE TO THE TRADE.

SOLE DEPOT FOR THE

"VICTORIA" & "DOLLY VARDEN" MACHINE,  
2, Princes Street, Barbican, London.

### SEWING MACHINE PARTS SUPPLIED

For the "Victoria," "Dolly Varden," "Home Shuttle," and "Kimball and Morton" Machines.

New Illustrated Price List on Application.

J. JOUNCEY, Manager.

To Capitalists, Builders, Influential Company Promoters, Financial Agents, and Patent Vendors.

THE owner of a fully-patented invention of the highest public utility and commercial value desires co-operation to sell the patent right or to form a first-class limited Company to work the same. To a firm of Builders, Contractors, or Builders' Manufacturers, the acquisition would prove invaluable. Immense fortune certain.

ADDRESS—

Patentee, Box 1,128, Sell's Advertising Offices, Fleet Street, London.

## SEWING MACHINES—IMPORT AND EXPORT.

**EMILE JAMES,**

190, Blecker Street, New York, U.S.A.,

Importer of European Special Machines; Exporter of American Sewing Machines and attachments of every description, and all kinds of American Goods. Sole Agent for the Exports of different Companies.

**BIRKBECK BANK.**—Southampton Buildings, Chancery Lane. Current Accounts opened according to the usual practice of other Bankers, and interest allowed on the minimum monthly balances when not drawn below £50. No commission charged for keeping Accounts, excepting under special circumstances. The Bank also receives money on Deposit at Three per cent. interest, repayable on demand.

The Bank undertakes for its Customers, free of charge, the custody of Deeds, Writings, and other Securities and Valuables; the collection of Bills of Exchange, Dividends, and Coupons; and the purchase and sale of Stocks, Shares, and Annuities.

A Pamphlet, with full particulars, on application.  
March 31st, 1884. FRANCIS RAVENSCROFT, Manager.

The Birkbeck Building Society's Annual Receipts exceed Five Millions.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH, with immediate Possession and no Rent to pay. Apply at the Office of the BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A PLOT OF LAND FOR FIVE SHILLINGS PER MONTH, with immediate possession, either for Building or Gardening purposes. Apply at the Office of the BIRKBECK FREEHOLD LAND SOCIETY. A pamphlet, with full particulars, on application.

FRANCIS RAVENSCROFT, Manager.  
Southampton Buildings, Chancery Lane.

**LATHES** for Sewing Machines, Repair Shops.

**LATHES** for all Trades.

**LATHES** for Amateurs from £2 15s. to £250.

**LATHES** and Fret Saws; 160 varieties.—Britannia Company, Engineers' Tool Makers, Colchester.

**SEWING MACHINE STANDS**, any design made in quantities at special prices.—Britannia Company, Colchester.

**SINGER MACHINES.**—We are open to sell for cash at special terms; state quantity.—Britannia Company, Colchester.

## HIRE AGREEMENT FORMS

6d. PER DOZEN, POST FREE.

Office of this Paper, St. Paul's Buildings, Paternoster Row, E.C.

## MISCELLANEOUS ADVERTISEMENTS

Prepaid Advertisements under this head are inserted at a charge of 2s., when not exceeding four lines; subsequent lines 6d. per line. Subscribers' advertisements half price.

**AGENTS** Wanted, to push first-class Machinery Oils, commanding a large and successful sale; liberal commission. Box 322, Post Office, Liverpool.

**AUTOMATIC HAND** (Wilcox and Gibbs'), £3 15s.; Singer's, £2 5s.—4, Nile Street, Shepherdess Walk, City Road.

**BRADFORD'S** Washer, Wringer, and Mangler, 26-in. rollers, brass capped, Vowel A E, all sound; cost £9 9s.; price £3 10s.—80, Hanover Street, Hanley.

**CHAINSTITCH** Hand Machine (Wilcox and Gibbs), in perfect order. Cost £5 5s.; will take 25s.—KINGS, Hazel Lea, Cheltenham.

**FOR DISPOSAL.**—A prosperous and lucrative Sewing Machine Business, in a beautiful locality twenty miles from London. May be worked with small capital.—For particulars, apply to H. R. BUTCHER, 30, Queen Street, Maidenhead.

**FRETWORK PATTERNS.**—Fifty full sized fretwork patterns, good designs, brackets, wheelbarrows, &c. Price 9d.—Dixon, 18, Clyde Road, Redland, Bristol.

**GOOD** Lockstitch Sewing Machine, perfect, with sundries. Lately cost £4; cash 35s., bargain.—R. EMERY, Walthamstow.

**GRISWOLD KNITTING MACHINE** (small) wanted for cash, cheap.—Mrs. HOLLES, Quay, Waterford, Ireland.

**HANDSOME** single round back Perambulator, bicycle wheels, apron, and canopy, by Johnson, New Oxford Street, in thorough repair; cost 48s. 6d., sell 25s. Can be seen—C. H., 28, Budge Row, Cannon Street, City.

**HAND** Silent Sewing Machine (Wilcox and Gibbs), silver plated, and same as new, warranted splendid worker, not automatic. Price 50s. only.—A. L. Kelley's Library, Gray's Inn.

**HARPER TWELVETREES' Villa Washer**, good condition; cost £5 5s.; price 50s., or offers.—Wimpress, 9, Hewlett Road, Bow, London, E.

**HIRE CARDS**, One Shilling per dozen, post free. Office of SEWING MACHINE GAZETTE, St. Paul's Buildings, Paternoster Row, E.C. N.B.—These cards are superior to those hitherto supplied, and are bound with cloth so as to avoid being torn in use. The vendor's name printed on the front page at a nominal extra charge.

**KNITTER**, Automatic, rubber stand, extra cylinder. Sell whole or part.—16, Rectory Road, Canton, Cardiff.

**LOCKSTITCH MACHINE**, Queen, new, in case, dozen accessories. Price 37s. 6d. Deposit.—Ada, Dorchester Villa, Kingston, Surrey.







**MACHINE NEEDLES.**—Five-drawer cabinet, containing about 150 dozen, various sorts; price 15s. lot.—H., 3, St. Mary's Villas, Southboro', Surbiton.

**MANAGER or TRAVELLER;** 14 years' general experience; aged 30; accustomed to country travelling; good references.—H. BOSCOMBE, Salisbury.

**SEWING MACHINE Wanted** (Wheeler & Wilson) in perfect order, original make preferred.—7, King's Road, Chelsea.

**SINGER** principle Sewing Machine. Medium. Cost £7 7s. two years ago; price 50s. Particulars of GOODYEAR, New Road, Spalding.

**SITUATION** Wanted as Manager of Sewing Depot. Age 38 years, having had twenty years' experience among sewing machines. Repairing and salesman, canvassing, &c. No objection to going abroad.—Apply to W. WALKER, Holbeck Station, near Leeds.

**SPLENDID** Wilcox Gibbs' Silent Treadle. Cost £5 5s.; price only 50s.—J. OSMAN, Poole.

**THE NEW WHITE HAND MACHINE,** silver plated, latest improvements, perfect working order, extras, nice machine box, brand new; cost £4 10s.; cash £2 10s.; approval.—T. CHENHALL, Tavistock.

**TRAVELLER** required by Richard Evered & Co., Limited, to call on Gasfitters, Plumbers, Bellhangers, Engineers, &c., in London and suburbs; a gentleman of good experience and a thorough knowledge of the trade required.—Apply by letter, stating age, experience, and salary required, to Mr. R. B. EVERED, 28, Drury Lane, W.C.

**TREADLE SEWING MACHINE** (Grover & Bakers). Cost £8; sell for £2.—HENDERSON, Harcourt House, Harrow.

**WANZERA** £4 4s. Hand Lockstitch Sewing Machine, in box, complete, quite new. Price £3 cash.—H. L. ENGLAND, Castle Lodge, Taunton.

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## The Sewing Machine Gazette.

DECEMBER 1st, 1884.

### A. Large Undertaking.

**THE** way in which the last issue of the *Sewing Machine Gazette* was received, not only in this country but also in Europe, the Colonies, and the United States, has convinced us that we were right in our opinion that there was sufficient vitality in the trade to warrant the production of a really high-class trade journal worthy of the name. From all parts of the United Kingdom, from France, Germany, Holland, and Austria, we have received congratulatory letters, while two cablegrams from across the water have acted as corroborative evidence of the general desire to see a good paper, and the determination to support it.

The circulation of our last issue was, we believe, larger than that of any which ever preceded it. It is tolerably well known that the *Gazette* is the oldest paper in the world representing the sewing machine and kindred interests, and in order that its influence and value may be increased, we have made arrangements whereby we can guarantee that within the next six months a copy of at least one issue will reach every manufacturer, dealer, agent, or factor in the English-speaking world, as well as in the principal continental nations. We should be happy to show to any person interested the system we are adopting, with a view to guaranteeing this end.

Briefly, it is this:—The directories at the British Museum and other reference libraries, at the different consulate offices, and those possessed by exporters

and merchants with whom we do business, are being searched, and from these we are extracting lists of a complete character. Nearly all these directories are for the current year, some few only being for 1883. Hence we are certain of being able to ensure the greatest possible accuracy, and by that means to reach, as we have stated, every member of the trade, however indirectly he may be acquainted with it.

It is obvious that the cost of sending out so large a number of gratuitous copies monthly would be beyond any reasonable expectation, we are therefore adopting a system of rotation whereby the list will be worked through in about six months, at the end of which time we shall commence again with the names as revised up to date.

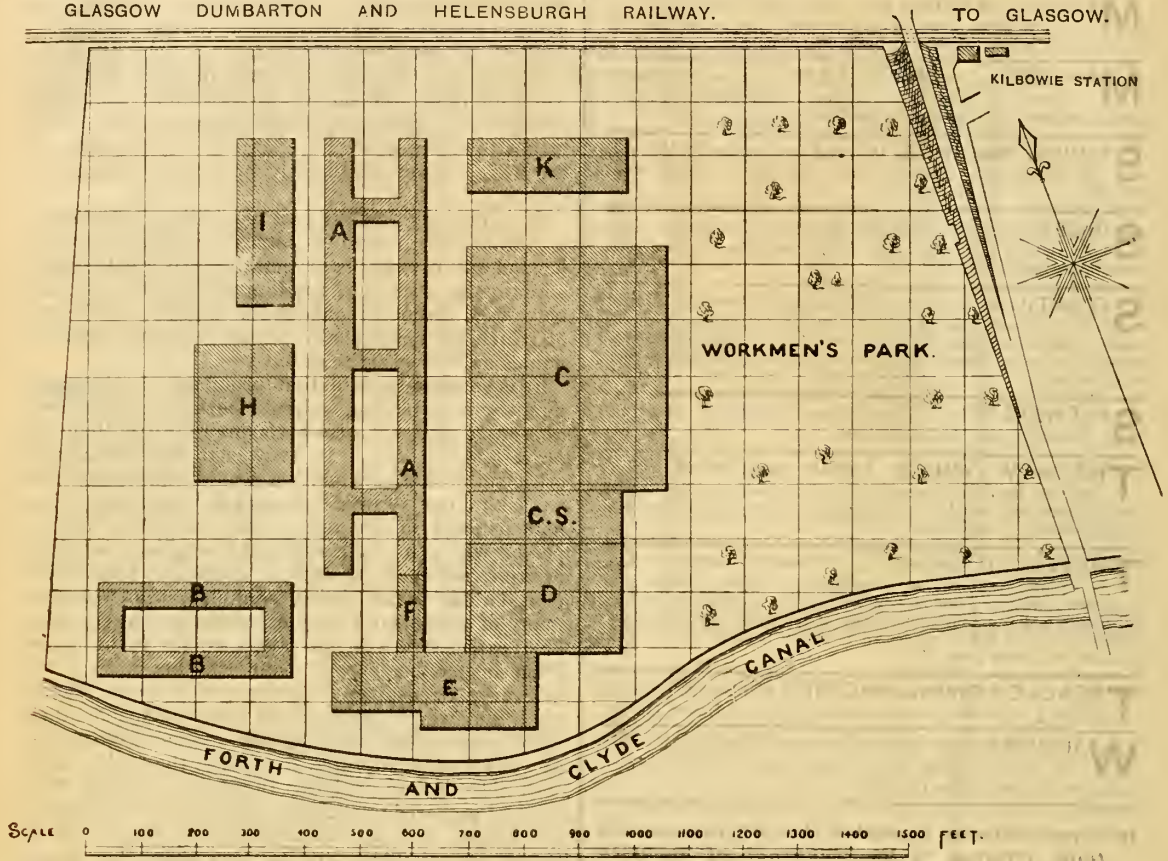
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A word in conclusion to managers of depots. In endeavouring to develop this paper we are fervently hoping for the kindly assistance and support of managers of sewing machine depots throughout the three kingdoms. In the course of our life we have been connected with a large number of the representatives of the different companies, and we have certainly found them sociable creatures, and ever eager for news of the trade, and for a pleasant chat with their "chief opponent" in the trade. We are assured that such a journal as this is an urgent requirement in order that managers may have a medium in which they can freely ventilate their ideas on the questions intimately affecting the business all have at heart. We are referring just at present to the large retail trade done by the various depots. We earnestly invite communications from managers in all parts of the country giving us items of interest concerning the trade of their particular district, intimation of changes of management, news regarding agents in their territory, ideas as to the various systems of canvassing, collecting, and recovery of lost machines. Any or all of these subjects will be of interest to our general readers. We invite correspondence containing anything concerning the trade, so long as it is written in a good spirit, and not intended to damage or injure an opponent. As we have said, we have the pleasure to know several of the gentlemen to whom we are appealing, and we have always found them full of pleasant cheery gossip, and if we can only depend upon the hearty co-operation of all managers, we can build up a paper that will compare favourably with that of any other trade in the kingdom. In addressing this much to managers we are not overlooking the "agents," indeed we are indebted to them already in a very great measure, and in our next issue we shall take the opportunity of saying a few words to them.



GLASGOW DUMBARTON AND HELENSBURGH RAILWAY.

TO GLASGOW.



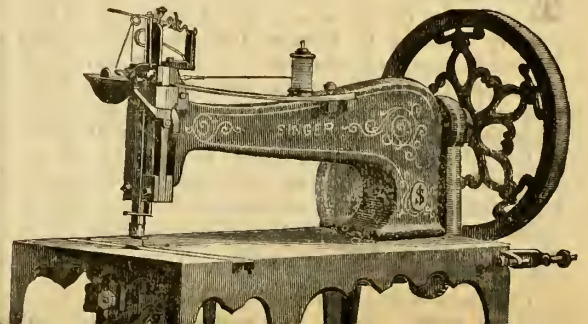
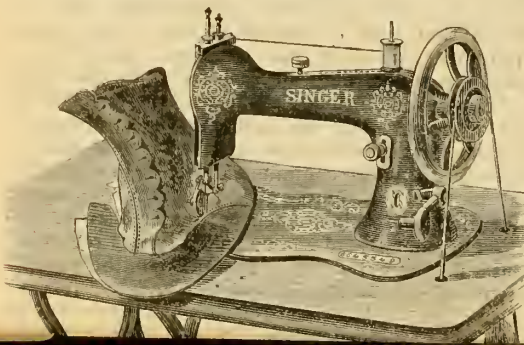
## Singer Manufacturing Company's New Factory.

(ILLUSTRATED.)

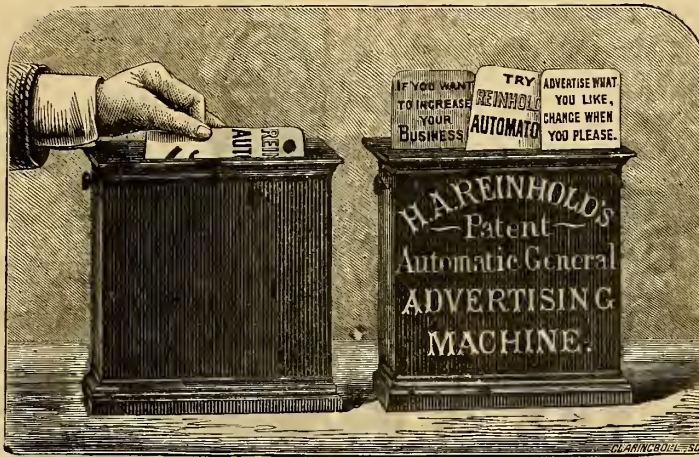
WE give a sketch plan of the new colossal factory of The Singer Manufacturing Company, at Kilbowie, near Glasgow. The two main buildings which are marked "A." in the plan are 800-ft. long and 50-ft. wide, with three connecting wings 70-ft. long by 50-ft. wide, and all are three storeys high. The cabinet and box making factories are marked "B.," and these consist of two main buildings about half as large, with similar connecting wing. "C." represents the foundry, an

is marked "F.," while the machine japanning and ornamenting department is distinguished by the letter "H." This latter is 250-ft. long by nearly 200-ft. broad. The forge marked "I." is 300-ft. long by 100-ft. broad, while the boiler shop ("K.") is of similar dimensions. The total floorage area is over 800,000 square feet or something like nineteen acres, while the total amount of ground occupied by the new works including the workmen's park is about 46 acres.

It will be seen that the premises are bounded on the north by the Glasgow, Dumbarton, and Helensburgh Railway, and on the south by the Forth and Clyde Canal, and that the Kilbowie Station is at the north east corner, with a siding running into the works. The







## Automatic Advertising Machine.

(ILLUSTRATED.)

THERE are few Surrey machine agents who have made such progress as Mr. Hermann A. Reinhold, of Woolwich. Although of the same nationality as another "Hermann," of sewing machine fame, he extends but little of his patronage to the German markets, and does the bulk of his business with a large English house. Mr. Reinhold is the inventor of the Automatic Advertising Machine, of which we give an illustration. This is an ingenious contrivance, being driven by clockwork, and small cards with printed advertisements thereon slowly run out of the small square box, inside which the works are placed. When placed in a shop window it is irresistibly attractive, the cards suddenly appearing as if by magic, then, after a few seconds' exposure, dropping out of sight again. Agents will do well to try this. The cost, we understand, is very small, and as it keeps at work without attention for over twelve hours, it is really little or no trouble. It invariably attracts a crowd, and advantage of this could well be taken by sewing machine agents. Card No. 1 might say, "Our machine is the very best," while No. 2 could add its testimony that "It combines every improvement, and is perfection personified." No. 3 card might add, "If you doubt this, look out for card

The ceremony of breaking ground for this extraordinary building or rather series of buildings took place some two years and a half ago, on which occasion representatives of the Company from New York, Hamburg, Paris, Madrid, Valencia, Barcelona, Brussels, Ghent, Geneva, Milan, Rome, Naples, Genoa, Berlin, Vienna, Metz, as well as almost every large town in England, were present; Mr. McKenzie, of New York, the President of the Company, performing the interesting ceremony. Since that time the work of building has proceeded rapidly, and although the new works are something appalling in size, so rapid has been the increase of business while the construction has been going on that it is exceedingly probable that a further enlargement will have to be made before many years have elapsed, so continuous has been the spread of popularity of the Singer Machines not only in England and the United States but almost in every country in the civilised world. A reference to the great success this Company have earned by the good value they give to their customers for money, and by the excellence of their machines, is exceedingly appropriate for this paper, particularly in connection with the enlargement and improvement taking place in this issue. The Company have always made special machines for the trade, and the gold medal recently awarded to them at the Healtieries was won to a great extent by machines which may be said to apply specially to the trades in

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The *Evening Journal*, of St. Catharines, Ontario published a very interesting account of the Singer exhibit at the fair recently held there. The capacity of the machines was practically illustrated by work done on the ground in the corset, shoe and hosiery factories of the neighbourhood. All the machines were made in

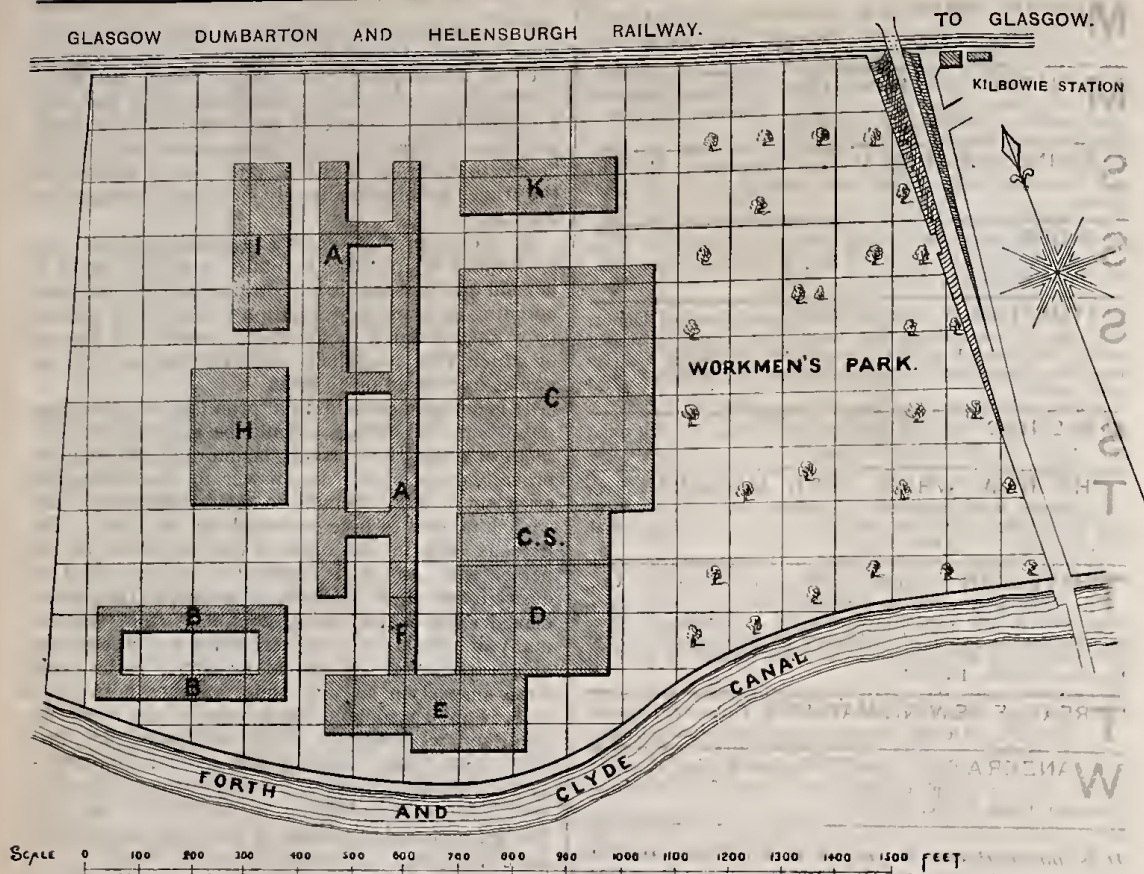
Montreal factories.

THE PATENT SEWING MACHINE.



but which afterwards turns out to be merely the frame the quotation of a price which is supposed to be inclusive, there being few things more annoying to an agent than no extras. Agents know how to appreciate this boon, reference to the machine, viz., that there are practically exceeds twenty. There is one grand feature with well finished attachments given with the machine attachment is also very successful, while the number of liked by those who have learned its value. The darning success, while the patent shuttle ejector, which automatically lifts the shuttle out of the shuttle box is much the self-releasing automatic winder, which proves a great the points to which special attention may be drawn are stand, and inlaid inch measure on each table. Among cutter, perfect self-threading shuttle, oil-can rest on the





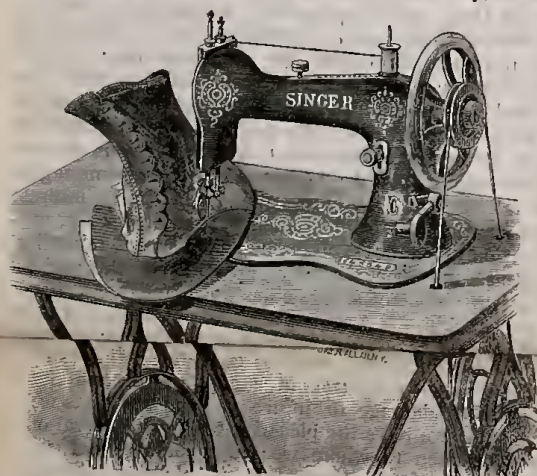
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(ILLUSTRATED.)

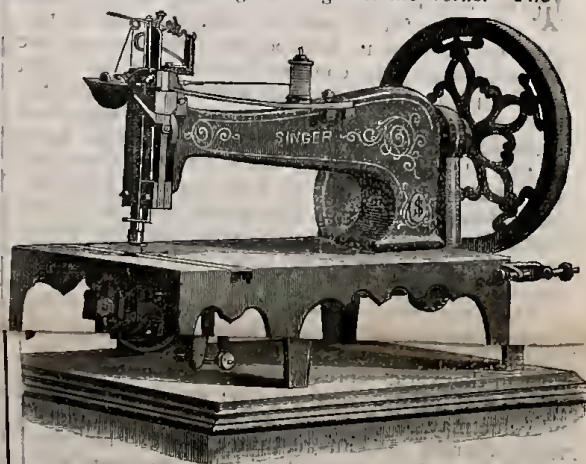
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*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

Mr. REED, of the White Sewing Machine Company (London Office), has just started on a business trip to Paris, the South of France, Algiers, Tunis, and Egypt. The superiority of the machines will therefore become still more generally known.

MESSRS. FOOTMAN, PRETTY, AND NICHOLSON, corset makers, Ipswich, have recently sent in another order to Messrs. Wheeler and Wilson, for 100 of their No. 10 sewing machines, making a total of 500 in use at their factory. A second order of 200 No. 10 rotary machines has been given by Messrs. D. Gurteen and Sons, Howerhill. Messrs. Wheeler and Wilson have also received an order for 100 No. 10 machines from Messrs. J. Compton and Sons, army, police, and railway clothing contractors, 2, Aldgate, London; also 100 for Messrs. Todd and Co. wholesale and export clothiers, Victoria Street, Bristol.

## Automatic Advertising Machine.

(ILLUSTRATED.)

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FIRST prize for the best sewing was awarded to the Davis machine at Eldorado, Kansas.

HOWE *versus* JUDKINS.—Of all refractory seamstresses this iron seamstress was the worst until the year eighteen hundred and fifty-one, when Mr. C. T. Judkins took her in hand. He had resolved upon resorting to strong measures to subdue her iron nature. He carefully examined the means which his predecessors had taken to reform her and make her an effective seamstress; after considerable labour, he so corrected her revolutionary tendencies that she became docile, and began to work her iron fingers admirably. Possibly the reformer plumed himself not a little on his cleverness; but certainly Mr. Howe saw the goodness of his follower's work. He forthwith laid a claim to part of the seamstress. Part of the iron lady (said Mr. Howe) might belong to Mr. Judkins; but undoubtedly, the lady's hands—the needle and the shuttle—were the property of Mr. Howe. Howe *versus* Judkins hereupon joined issue, and the law decided in favour of Howe. What does the seamstress then, but appear, like Miss Biffin, without arms! Without these ordinarily useful appendages Mr. Judkins sought to adapt the iron seamstress more thoroughly than ever to her work; and he triumphantly succeeded.—HOLLINGSHEAD.





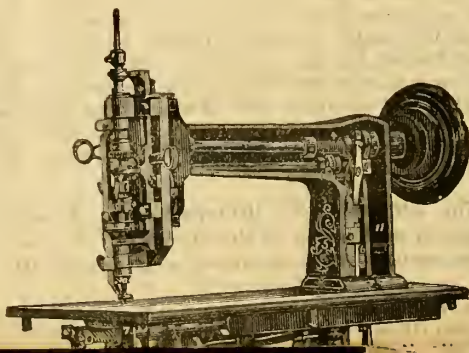
THE PFAFF SEWING MACHINE.

## Pfaff's Sewing Machine.

(ILLUSTRATED.)

MESSRS. McCLELLAND AND STIBBE, of Union Street, Glasgow, have favoured us with two illustrations of the Pfaff Sewing Machines which we give herewith. As is well known, the Pfaff Machine is noted for its excellent finish and for the rapidity with which its manufacturers adopt modern improvements. The workmanship is very fine, and the appearance exceedingly artistic. In fact, we may safely say that so far as cabinet work, japanning and finishing are concerned, there is no machine in the German or American market that equals it. As we have before stated, it is a matter of impossibility to say which is really the "best sewing machine," just as it is impossible to say which is the best bicycle or the best tricycle. At the same time it is admitted that the Pfaff machine has many points which its rivals do not possess, and we have never yet heard of any agent who opened out a connection with it who was dissatisfied with the results, or who got into disfavour with his customers in consequence. All the machines are fitted with the under-mentioned valuable improvements: patent shuttle ejector, patent automatic winder, improved treadle and three-roller stand, automatic tension disconnecter, thread

work on which are hung a host of extras, some trifling and some considerable. The working portions of the machine are guaranteed of the best hardened steel. A written warranty being given with each, we have no hesitation in saying that the Pfaff machine which 33 years ago, and again 22 years ago, obtained awards of merit at the International Exhibitions in London, is a reliable and high class article, while as an ornament to a sitting room its frame work and cabinet ornamentations render it almost without a rival.









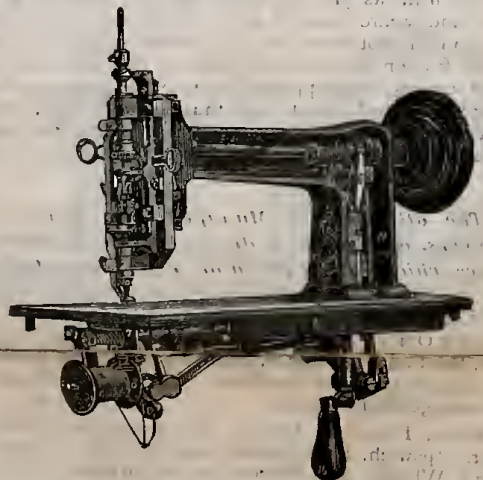
THE PFAFF SEWING MACHINE.

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work on which are hung a host of extras, some trifling and some considerable. The working portions of the machine are guaranteed of the best hardened steel. A written warranty being given with each, we have no hesitation in saying that the Pfaff machine which 33 years ago, and again 22 years ago, obtained awards of merit at the International Exhibitions in London, is a reliable and high class article, while as an ornament to a sitting room its frame work and cabinet ornamentations render it almost without a rival.



THE PFAFF SEWING MACHINE.

The *Evening Journal*, of St. Catherine's, Ontario, published a very interesting account of the Singer exhibit at the fair recently held there. The capacity of the machines was practically illustrated by work done on the ground in the corset, shoe and hosiery factories of the neighbourhood. All the machines were made in the Montreal factories.









## Sewing Machine Medals at the Health Exhibition.

IT appears to be some misunderstanding respecting the medals awarded for sewing machines at the International Health Exhibition, South Kensington. It is said that a London sewing machine house is advertising in a foreign country that they received a gold medal from the jurors; but as we do not find that firm's name in the supplement to the *London Gazette* of Oct. 27th, 1884, which contained the names of the firms to which medals were awarded, the misunderstanding will be removed by the following record, which we obtain from a careful investigation of the official publication just referred to, class 19.

### GOLD MEDALS.

The Singer Sewing Machine Manufacturing Company, Cheapside, E.C.

The Wheeler and Wilson Manufacturing Company, Queen Victoria-street, E.C.

The Wanzel Sewing Machine Company, Great Portland-street, W.

### SILVER MEDALS.

Hermann Loog, 128, London Wall, E.C.

The Self-Acting Sewing Machine Company, London.

### BRONZE MEDAL.

The "White" Sewing Machine Company, 19, Queen Victoria-street, E.C.

The above were the only awards given for Sewing Machines.

Two Silver Medals were also awarded for Knitting Machines, viz., to the Patent Automatic Knitting Machine Company, of 417, Oxford-street, W., and to the New Rothwell Knitting Machine, Bolton, Lancashire.

In connection with this subject we are glad to find that the White Sewing Machine Company carried off a medal. As everybody in London knows, who has any interest in the sewing machine business, this Company exhibited under great disadvantages. They had not sufficient space, their stand being limited to four feet by three. But their machine has obtained great reputation, and small as was the space which was allotted from necessity for its exhibition, the Company ingeniously made the best of it, and won much attraction for the splendid array of embroidery made by the White machine.

Messrs. Wheeler and Wilson have published a special hand-bill giving publicity to the award which they have had the honour to obtain, and also to that of the only gold medal conferred on sewing machines which they received at the Calcutta Exhibition last summer.

Mr. Hermann Loog who, as we have stated, received a silver medal, exhibited with much spirit. His Patent Straw Hat Sewing Machine is a valuable labour-saving apparatus, and was much commended by all visitors to the exhibition.

The merit of the Self-Acting Sewing Machine Company, which received a silver medal, is one of great utility. It is a "motor" supplying the power of motion without hand-wheel, treadle, steam, gas, air, or electricity, and can be fitted to any sewing machine. The motive power is contained in a box about 15 inches square by 9 inches deep, which forms a table for the sewing machine. One minute's winding will store up sufficient power to keep an ordinary operator employed for about an hour. Besides working at the rate of 1,000 stitches per minute, the motion is always under control, and can be used slowly when desired.

The Wanzel Sewing Machine had the claim of genius for the gold medal it received. This Company exhibited their new machine, the principle of which we explained in our last month's issue.

Of the two knitting machines which received silver medals, we may remark that they represent two principles. The Patent Automatic Machine is a circular motion, and the Rothwell works with two parallel slides. Each was considered the best representative of its class, and practical experience can alone prove which is best for certain descriptions of work. The Rothwell has more novelty about it, whilst the Patent Automatic is, we believe, a great improvement on the original circular stocking knitter, for instance, a pair of ribbed socks can be knitted by it in forty minutes. Both

machines have materially increased the earnings of operatives.

Writing on this subject, the *American Sewing Machine News*, usually a first-class authority, has fallen into an error. It says:—

"The London letters to the *News* during the summer months contained eulogistic accounts of the exhibit of the Davis Sewing Machine Company at the International Exhibition which was being held in London. If we are not mistaken, it was the first occasion upon which the machine, which is popularly known in Europe as the "Vertical Feed" sewing machine, was publicly exhibited in a competition for honours. The machine's novel and marvellous range of work, both practical and fancy, surprised and delighted the Londoners, to whom it was something new in sewing mechanism, and the booth where the experts were tossing off sample after sample of great variety and singular beauty was one of the most constantly crowded points in the exhibition. The jury were so impressed with the capacity of the machine and the novelty of its leading features, that they gave the exhibits a strong recommendation to Superior Council, in whose hands the granting of the awards lay, and the Council, acting upon that recommendation, unanimously voted a gold medal to the Vertical Feed Sewing Machine Company, as the Davis Company is styled in England. The gentlemen at Watertown are to be congratulated, and their representatives in London also, who so creditably and successfully exhibited their machine; and it is to be hoped that this well merited success will be followed up by an increased and lasting European trade."

The information as to the high esteem in which the Vertical Feed Machine is held in this country is of course strictly correct, but as a matter of fact, and fact only, there is an obvious error as to the medal. Of course we, and everyone in the trade, entirely acquits the firm of any intention to deceive, and no doubt our excellent contemporary has been the victim of a hoax, which, like most jokes of the kind, does good to no one, and is only calculated to arouse bad feeling.

**HAND AND MACHINE SEWING.**—A good hand-sewer averages thirty-five stitches per minute; the fastest machines on some kind of work perform three thousand a minute. There are in a good shirt 20,620 stitches: what a saving to do them at machine speed! The stitching of a man's hat by hand requires fifteen minutes; by machine, one minute. One girl can do the sewing by machine of as many boys' caps as ten men can do by hand. In fine clothing for men, the saving is, of course, not so great. An authority says that the making of a first-class overcoat by hand requires six days' steady sewing; by machine, three days. In the general work of a tailor, the machine saves a *journeyman* about four hours in twelve. Carriage trimmers testify that one machine and three hands are equivalent to eleven hands. In the truss and bandage business, which is one of very great extent and importance, one machine is equal to ten women. In the manufacture of bags for flour, salt, and meal, of which the city of New York produces two millions of dollars' worth per annum, a machine does the work of nine women. In mere hemming, on a machine fitted expressly for the purpose, one machine does the work of fifty girls.—JAMES PARTON.

**THOMAS SAINT'S SEWING MACHINE.**—A few years ago there was found among the records of the Patent Office the copy of a patent for a sewing machine made by Thomas Saint, dated July 17, 1790, which excited considerable surprise and interest in consequence of its possessing many of the elements of successful modern sewing machines. This might have been used to some extent for sewing leather, but could not have succeeded with woven fabrics containing fibres, for they would have been caught in the forked needle by which the thread was pushed through. It was intended, as the patent states, "for quilting, stitching, and making shoes and other articles by means of tools and other machines." It had an arm, upon the over-hanging end of which there was a vertically reciprocating straight needle. The arm also supported a spool which gave out its thread continuously. It had a horizontal cloth-plate, made a chain or crochet stitch, and had thread tighteners above and below.



## Genius Rewarded.

### THE INVENTION OF THE SEWING MACHINE.

WE have received from the Singer Manufacturing Company a handsome book of about 100 pages, and numerous plates, entitled "Genius Rewarded." It contains a history of the invention of the sewing machine, which is then followed up by a description of its present manufacture.

Chapter I. opens with a touching allusion to the trying and deplorable condition of the seamstress in large cities before sewing machines were invented. The subject is illustrated by an engraving, representing a woman in a top-floor garret making shirts. The room is scantily furnished, and on a box is seated a poor ragged little boy, dejected and hungry, whilst in the corner of the garret is a sick child in what is supposed to be a bed. Above this engraving are printed a few lines from Hood's popular "Song of the Shirt."

With fingers weary and worn,  
With eyelids heavy and red,  
A woman sat, in unwomanly rags,  
Plying her needle and thread—  
Stitch! stitch! stitch!  
In poverty, hunger and dirt,  
And still, with a voice of dolorous pitch—  
Would that its tone could reach the rich—  
She sang the Song of the Shirt.

The contrast to all this is the good pay which women now obtain by being able to do a lot of work with the sewing machine. On another page, for instance, is a wood-cut representing two men seated on a pile of boards in Boston, United States. One of the men has got an idea of constructing a machine which will sew, and was anxious to find the scanty capital of forty dollars, in order that the machine might be made. Ultimately the affair came before Isaac Merritt Singer, who improved on the idea, and "produced the first sewing machine that ever was practically successful." Then comes another engraving representing a well-furnished home, the same woman well attired, and her children happy and comfortable. The reason of the change being a sewing machine, which stands against the window.

Chapter II. describes the machines which were made and their improvers, for the idea of sewing machines had been cherished for a century before the first successful machine was made. But we believe that various opinions exist as to who can claim the merit of the invention. In the book before us we read that "the earliest attempt at sewing by machinery, of which any authentic account exists, was made as early as July 24th, 1755, when a machine was patented in England by Charles F. Weisenthal, having a needle with two points and an eye at mid-length." This is an interesting fact, but as most of our readers know, the needle now used in sewing machines has the eye just above the point, the other end having a screw or slit by which it is secured to the machine. The next sewing machine was that of Thomas Saint, of England, who obtained a patent on June 17th, 1790. "This man," says the writer of the book we speak of, "seems to have understood with remarkable clearness, the main essential features of the invention, for his machine had a horizontal cloth-plate, an overhanging arm, at the end of which was a needle working vertically, and a 'feed' working automatically between the stitches. These features have been preserved in every successful machine ever made. The needle was notched at the lower end, to push the thread through the goods, which had previously been punctured by an awl.

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The nearest approach, however, to success, prior to 1850, was, says the author of this book, made by Walter Hunt, of New York, in the years 1832-4. John J. Greenough followed in 1842 with another machine, and next year R. W. Bean introduced further improvements. In the same year, 1843, George Corliss brought out a machine, and in 1846, Elias Howe, jun., built a sewing machine on Hunt's plan. Mr. Singer also introduced several improvements which led to the present machine.

After this outline of the invention, the book, with a series of plates, describes the various processes of manufacturing the Singer machine. It is certainly the most interesting and useful book that we have read on the subject.

THE Howe Sewing Machine Company, of Queen Victoria Street, will introduce a new bicycle next spring. The same Company has completed a sewing machine with "a high arm," so as to admit the largest quantity of work. We have had the opportunity of inspecting the machine, and as it possesses the two important points of utility and simplicity, without which no sewing machine can obtain public favour, it is well worthy of attention by those whose work requires a high arm.

OUR AUSTRALIAN CORRESPONDENT in an interesting letter just to hand, says:—"I promised you some time ago to write you further particulars respecting the sewing machine trade in Australia. The trade in sewing machines has already reached enormous dimensions in this new country, and it is surprising to find continued evidences of its further growth. The leading firms in Melbourne are the Singer Company, turning out 300 machines a week, Hugel Werthum, a German firm, turn out about 350 machines a week, the Davis of America turn out about 50 machines a week, the new Wilson, of America, about 40 machines a week. These people have just opened a new building, 41, Swanston-street. The main showroom is 41 feet frontage and 60 feet deep, and has been decorated at considerable expense, and no doubt their sales will double in a few months. The rent of this place would be about £9 per week. We also have the Jones machines taking the lead amongst the boot manufacturers with their machines, which are noted all over the colony as the best boot machines that are sent into Australia. Large as is the trade done in them, no doubt if these machines were more vigorously handled, a larger business could be done. There is again the Wheeler and Wilson, handled by an ironmonger in Melbourne. At one time he did a very large trade in these machines, but the trade is falling in pushing agents hands that make a special trade of sewing machines. We also have a few of Robinson's machines sent out here. These are also handled by a person who does not understand the sewing machine trade. Although a good machine, it will not sell unless properly put in the market by an experienced mechanic. It is not like selling machines in England, where you can get parts and repairs done by return of post. If anything goes wrong here it is a great expense to put right, and very few warehouses here know how to put a boot machine in proper working order; it is therefore a very important matter that the agent handling sewing machines should thoroughly understand his machines. I also hear the White people have just taken an order for about a thousand machines from an importer who intends putting this machine in the market of Australia. No doubt we shall presently hear of this firm and see show cards and







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defects, we read, to become more than a step further in the invention of a sewing machine.

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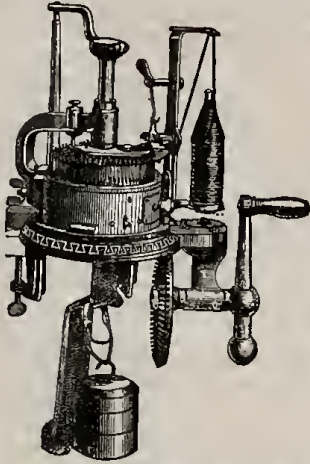




## Griswold's Stocking Knitter.

(ILLUSTRATED.)

WE give a small illustration of Griswold's Stocking Knitter, manufactured by the patentees, the London and Leicester Hosiery Company, Limited. This Knitter combines the following improvements over all other existing knitters. 1—A new expanding set-up. 2—An improved arrangement of the working cams, by which all catching of the needles and breaking of the cylinder is obviated. 3—A positive lever take-up for the slack yarn when knitting flat web, or when forming the heels and toes. 4—An improved counter, for registering the number of rows as they are being knitted.



Wherever introduced this Knitter has been received with universal favour, and is rapidly supplanting all others. It is more simple than any other machine we have yet seen. A special machine is made for hosiery manufacturers—a heavier and stronger machine—which will knit well from the ordinary steam-wound bobbins. We strongly recommend sewing machine agents to place themselves in prompt communication with Mr. J. L. Berridge, the licensee, at 8, Gallowtree Gate, Leicester, or 41, Charterhouse Square, London. It is important that each agent should have a line in this direction, as we are sure no other make will suit his customers better if indeed anything like as well as Griswold's

### Business at Home.

THE following extracts from the London letter to the *Sewing Machine News* will be read with interest:—The month of September just closed has been notable for a decided revival in the sewing machine trade, which it is to be hoped may be of steady growth during October. The weather has continued warm and dry, but the many indications that the coming cold season is now rapidly approaching have given some impetus to such branches of business as make the sewing machine needful. To American visitors to Europe the very considerable use of the hand machine in preference to the treadle machine has caused much astonishment; and, indeed, without considering the causes it would at first glance seem incredible that preference should be given to a machine so vastly inferior in its working qualities. But the fact of the matter is that such few persons who move in the middle ranks here (I use the expression to distinguish them from such as sewing machinists, who daily operate the machine for a living,) as use a sewing machine are prohibited by medical opinion from using the feet in working the machine on the ground that it is extremely hurtful to health; and to such a degree has this theory been preached, generally among physicians, that a very serious effect was produced upon the sewing machine trade. A little ordinary common sense, with a very trifling investigation, might easily have produced a proved disputation of such an absurdity, but it is only within the present month, in consequence of the sewing machines at the "Healtheries," as it is now called (short for International Health Exhibition), that proper attention has been given to the matter, and scientific opinion published to the world that the use of the treadle sewing machine exemplifies to a marked degree that, in a

sanitary view, the greatest beneficial results instead of the contrary. The most prominent and reliable newspapers have taken up the matter at last, and evidence has been published to prove the assertions made. *The Queen*, the ladies' newspaper of England, recently printed a very long leading article on this matter, and fortified it by scientific and medical opinion, concluding with sound advice to all its readers to more generally adopt the sewing machine than heretofore, advice that will, if carried out, make a material difference in the trade. The American woman, acknowledged to be the best dressed in the world, can always remain so, so long as she possesses a sewing machine and can procure a French fashion plate. The Englishwoman, acknowledged to be the worst dressed in the world, will always remain so, just so long as she declines to use a sewing machine because it would lower her in the social scale, and has to depend entirely upon her dressmaker, whose inefficiency justly condemns her the world over. After this exposure of the fallacy of the doctors' theory, and the easy access to the immense numbers of new patterns sold daily through the enterprise of Americans, again, the last excuse can be the only one that would be feasible.

The principal sources from which the revival of trade is derived is undoubtedly foreign, although a few large English orders have been booked. In this regard the American companies have the benefit, the English manufacturers apparently not yet feeling the same stimulus. This, of course, is due to the fact that the foreign export consists entirely of original American machines, English makes, with but few exceptions, like German, being only imitations. In the export of machines for domestic use the "White" decidedly leads for the month. This firm was favoured with unusually large orders for France, Spain and Italy. The office in London finishes up the month with a record of sales the largest yet since they have been established in Europe.

Mr. George Mastick, of the Cleveland office of the White Company, arrived in London a few days ago, after a fair passage on the P. & O. Company's steamer "Sutlej" from Suez. Leaving Cleveland in April last he proceeded to Australia, via San Francisco; successfully opening up large and valuable new business in the Colonies for his company, he proceeded to India, and after some sojourn at Bombay, &c., visited London and the Continent, returning to America before the end of October. Mr. Mastick looks uncommonly well after his long trip around the world, and informs me that the outlook for the "White" Company having a large increase of trade in the Australian Colonies is most promising, and that the business is steadily increasing in India. Initiated into the mysteries of the foreign business of the European branch here, as unveiled by the manager Mr. George Sawyer, he confesses to utter amazement at the labyrinth of necessary detail to make shipments and proper disposition of machines ordered from all parts of the Eastern Hemisphere, embracing, as it does, conflict with a variety of monetary currency, different duties, rates and freight, and a perfect maze of red-tape from one end to the other—a condition of things very much conducive to the shortening of any man's life.

*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

AN INVENTOR'S TRIALS.—In 1830, Barthlemy Thimonnier patented a sewing machine in France, which was so far successful that, in 1841, eighty of them made of wood were in use for sewing army clothing at a shop in Paris. They were destroyed by an ignorant and infuriated mob, just as the Jacquard loom and Hargreave's spinning-jenny had been years before. Thimonnier escaped with his life, and again set to work. The revolution of 1848 found him another set of machines, capable of making 200 stitches per minute, and sewing and embroidering any material from muslin to leather, inclusive. Again the mob defeated his projects, and perilled his person. He was in very straitened circumstances, and the repeated destruction of his machines, built with money solicited from his friends, wearied at last even the admirers of his genius and energy. He died in poverty in 1857.





## Universal Metal Cleaning Pomatum.

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Wood, one of the witnesses, described the machine as being curved and the other straight; there was also a needle and shuttle arrangement. After giving a description of this machinery, the specification of the patent goes on to describe other machinery for "sewing thread, yarn, gimp, cord, or fabrics in pattern, on the surface of fabrics." "If desired," it adds, "a second fabric may be placed on the fabric to be ornamented, and when sewed together, the former may be cut away between the figures or patterns." If this was not a true sewing machine what is? After Howe's invention became known in England, Foster altered his machine, and made a sewing machine of it, while even as it was it was sufficient to invalidate Howe's (or Thomas's) patent, parts of which were accordingly disclaimed.—H. T. Wood.

ing in a loom with one, two, or more shuttles. Atlantic embroidery, with a large number of needles, was patented by John Duncan, May 30, 1804. He used hooked needles, attached in a straight line to a horizontal bar, the forward motion of which carried all the hooked ends through the cloth, when, on being supplied with thread by a feeding needle, the reverse motion carried back loops which passed through and secured those of the previous stitch. Patterns were worked by a sliding motion of the fabric with its vertical frame. This was the first important step in embroidering machinery, which was carried to great perfection in the machine of Heilmann. This, however, used Weissenhal's two-pointed needle with the eye in the middle, and also by parts to pull the needle through, afterwards used by Greenough.—*American Cyclop.*





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*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

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THE WHITE MACHINE at the Philadelphia State Fair.—a Philadelphia correspondent says:—"I was especially pleased with the 'White' booth, which was certainly a model of artistic beauty. It was an ebonized pavilion with a canopy of crimson satin, the frontage decorated with ebonized posts with brass mountings, and a large crimson silk cord linked from post to post to take the usual place of the wooden railing; at the sides were ebonized curtain poles, with brass mountings, from which were suspended curtains representing every variety of embroidery in arasene, chenille, silk, tinsel and tufted work, so true to nature that a farmer could well imagine some of his pumpkins were hanging up in the 'White' booth. A variety of tailor and other practical work was represented by the 'White.' Mr. A. C. Rishel, the Philadelphia dealer for the 'White,' was in constant attendance with a corps of able assistants. The 'White' automatic, single-thread machine (by the way a new candidate for public favour) attracted much attention from the trade in general and of manufacturers, and will, no doubt, rival the Wilcox and Gibbs automatic, and create many strong contests for supremacy among those who desire the single-thread machine."

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LORD MAYOR'S DAY.—On the Ninth of November, the London City sewing machine depots were enjoying an enforced holiday in consequence of the Lord Mayor's procession passing through its principal streets. Starting with S. Davis & Co.'s large establishment in Cheap-side, with their tremendous window they had ample opportunities of affording seats for their numerous staff and friends, and they certainly seemed to be having a good time. Singer's and Wilcox & Gibbs' also showed signs of being *en fete*; and going down Newgate Street, we noticed that Bradbury's depot was evidently arranged for accommodating any customers or friends who wished to see the show. "Make hay while the sun shines," is evidently their maxim, for their manager judiciously sent two of his men on the roof of their buildings with 50,000 special cards which were showered out industriously upon the devoted heads of the patient and much enduring crowd below. This caused quite a sensation. Portly aldermen, common councilmen, Egyptian soldiers in the much-talked-of Nile boat, soldiers on camels—who seemed fearfully afraid of slipping off—and even Queen Elizabeth herself, were in turn covered over with Bradbury's cards like the "Children in the wood" were covered with leaves. They seemed, however, to bear it good humouredly, with the exception of the chief inspector of police, who gesticulated wildly, and seemed to be threatening all kinds of vengeance. He evidently thought better of it, however, so our sewing machine friends will remember next year how to turn the holiday to good account. On the return journey, Wheeler & Wilson, the White Vertical Feed, and the Howe Companies all joined in the general festivities, and appeared to be entertaining their friends, and generally combining to make a happy day of it.



FROM ALL HANDS WE RECEIVE confirmation of our praise of the eccentric motion of the new Wanzer machine. More than one country subscriber who has paid us a flying visit during the month looked in also at Great Portland Street, and came to us "full" of the novelty. "Where will American ingenuity cease?" was the general question.

THE SCHOLASTIC SEWING MACHINE COMPANY is an instance of the extraordinary growth of a firm by judicious advertising. The principal of this firm is a school-master himself, and consequently is well able to judge of the requirements of his fellow teachers. The firm do an extraordinary business amongst school teachers all over the three kingdoms.

The *New York Mail and Express* (an authority on the subject) says the cotton crop this year will foot up 6,000,000 bales. We are inclined to think our friends in the South (with a few local exceptions) have fully as much to be thankful for as have the farmers in the West. The price of cotton does not show the decline experienced in wheat, and the value of the cotton product is increased year by year through the utilization of the seed to such an advantage as was never dreamed of a few years ago. Six million bales of cotton now means much more than it did a few years ago when the seed was almost valueless except for fertilising purposes. The Yankee spirit of thrift has got well hold of the Southerners, and it is a real pleasure for us to watch the beneficial effect.

THIS IS WHAT THE *Sewing Machine Times* (U.S.) says with regard to "cutting" by agents, and we reproduce the note, thinking some on this side of the herring pond "seeing may take heart again." There are evidently thorns as well as roses even in the El Dorado, known as the United States. John Willing, of La Crosse, Wis., whom we showed up as "Another Smart Alick" two weeks ago, writes us as follows:—"I wish to state that I buy my goods for cash, and do not suppose it is anybody else's business what I propose to do with them, whether they are sewing machines or any other merchandise. In regard to selling them cheap, I do not sell them any cheaper than my competitors, and in some cases not so cheap; and in regard to my financial matters, you and your advisers need not trouble about that, for there is no danger, but if I should get into trouble, which I do not expect, I do not need to go to the cheap St. John adviser for assistance." To which we reply he is not the only fool determined to go to the devil headlong without interference. We are perfectly willing he should do this, provided he does not damage others by his foolishness. We have done our part by this man, now let the companies see to it that they place it beyond his power to advertise in newspapers that he will sell their sixty dollar machines at thirty dollars each.

THE EARLIEST SEWING MACHINES.—The earliest invention of machines for sewing were attempts to imitate hand-sewing, making a running through-and-through stitch with but a needleful of thread. This being impracticable in consequence, among other defects, of the wearing of the thread, it was sought to produce the old crochet stitch by means of machinery. The first needle suitable for use in sewing machines was introduced by Charles F. Weisenthal, to whom a patent was granted in London, June 24, 1755. It was pointed at both ends, with an eye in the middle, for passing each way through the cloth without being turned round; but it was only used for hand embroidery. The first application of machinery was contained in a patent to Robert Alsop, in London, dated March 22, 1770, for embroider-

WE hear that Messrs. Buckley and Son, of Greek Street, Leeds, are now running nearly 600 sewing machines in their clothing and hat and cap factories.

THE Excelsior Supply Company have sent us their catalogue and price list. Everything in the sewing machine line is included within its pages, and every description of trade novelty is also quoted. All sewing machine men should have it. Write to the address of the Company, at 81, Jackson-street, Chicago, and it will be sent by return mail.

THE VERTICAL SEWING MACHINE OFFICE, in Queen Victoria Street, is displaying a pretty floral device in coloured silk, which has just been completed on their machine. It has some handsome "blue corn bottles" amongst the flowers, and is well set off by a neat frame. We believe it is the work of Mrs. Aldworth, the lady manager of the London Office, who has on former occasions shown great taste and skill in this kind of work.

THE present is the dull season of the year in the operative department of the sewing machine business in London. Machinists always dread that part of the year from Lord Mayor's show to the end of the first week in January. But there has been a good run of trade in the manufacture of ladies' ulsters this year, which has extended to the end of November. The prices paid have been for children's sets of five, 24 to 36 inches, 3s. and upwards, according to quantity of work. Women's size, from 8s. and upwards per dozen. These are plain and untrimmed. For the superior articles, 18s. a dozen has been paid. All these prices were for out-door work. Women's costumes have been made from 8s. and upwards according to trimming, and there has been a fair amount of employment at these prices. The stay and corset business is still in full operation.

EARLY AMERICAN SEWING MACHINES.—In 1818, the Rev. John Adams Dodge, of Monkton, Vermont, invented and—with the assistance of John Knowles, an ingenious mechanic of the same town—constructed a sewing machine which made the back stitch and sewed a perfect seam. Mr. Dodge was deterred from continuing the manufacture of the machine, and from endeavouring to introduce it to the public, or securing letters patent for it, by two causes: first, the exigencies of his professional duties as pastor of two—and sometimes three—churches, which left him no time for other pursuits; and second, by the bitter opposition of the journeymen tailors, who denounced the machine as an invasion of their rights. There exists, however, ample evidence that it was a machine capable of doing good and practical work. Lye's machine, patented in the United States, in 1826, exists only in name. The patent rights of that year were burned, and it is not known what were its claims, or what stitch it made.—L. P. BROCKETT.

THE NOTTINGHAM SEWING MACHINE, 1844.—In December, 1844, a Nottingham inventor made a sewing machine without knowing it. Mr. Foster, the inventor, was a very young man, only nineteen, when he first contrived his machine, and in conjunction with his moneyed partner, Mr. Gibbons, brought it into practical use at the time mentioned. The patent, which was taken out, was for "working ornamental designs on lace or net, and other fabrics, by machinery, in such manner that two threads are caused to loop together, one thread passing through the fabric, and the other looping therewith on the surface without passing through the fabric." It is not necessary to describe the machinery by which this was done. Suffice it to say there were







FROM ALL HANDS WE RECEIVE confirmation of our praise of the eccentric motion of the new Wanzer machine. More than one country subscriber who has paid us a flying visit during the month looked in also at Great Portland Street, and came to us "full" of the novelty. "Where will American ingenuity cease?" was the general question.

THE SCHOLASTIC SEWING MACHINE COMPANY is an instance of the extraordinary growth of a firm by judicious advertising. The principal of this firm is a school-master himself, and consequently is well able to judge of the requirements of his fellow teachers. The firm do an extraordinary business amongst school teachers all over the three kingdoms.

The *New York Mail and Express* (an authority on the subject) says the cotton crop this year will foot up 6,000,000 bales. We are inclined to think our friends in the South (with a few local exceptions) have fully as much to be thankful for as have the farmers in the West. The price of cotton does not show the decline experienced in wheat, and the value of the cotton product is increased year by year through the utilization of the seed to such an advantage as was never dreamed of a few years ago. Six million bales of cotton now means much more than it did a few years ago when the seed was almost valueless except for fertilising purposes. The Yankee spirit of thrift has got well hold of the Southerners, and it is a real pleasure for us to watch the beneficial effect.

THIS IS WHAT THE *Sewing Machine Times* (U.S.) says with regard to "cutting" by agents, and we reproduce the note, thinking some on this side of the herring pond "seeing may take heart again." There are evidently thorns as well as roses even in the El Dorado, known as the United States. John Willing, of La Crosse, Wis., whom we showed up as "Another Smart Alick" two weeks ago, writes us as follows:—"I wish to state that I buy my goods for cash, and do not suppose it is anybody else's business what I propose to do with them, whether they are sewing machines or any other merchandise. In regard to selling them cheap, I do not sell them any cheaper than my competitors, and in some cases not so cheap; and in regard to my financial matters, you and your advisers need not trouble about that, for there is no danger, but if I should get into trouble, which I do not expect, I do not need to go to the cheap St. John adviser for assistance." To which we reply he is not the only fool determined to go to the devil headlong without interference. We are perfectly willing he should do this, provided he does not damage others by his foolishness. We have done our part by this man, now let the companies see to it that they place it beyond his power to advertise in newspapers that he will sell their sixty dollar machines at thirty dollars each.

THE EARLIEST SEWING MACHINES.—The earliest invention of machines for sewing were attempts to imitate hand-sewing, making a running through-and-through stitch with but a needleful of thread. This being impracticable in consequence, among other defects, of the wearing of the thread, it was sought to produce the old crochet stitch by means of machinery. The first needle suitable for use in sewing machines was introduced by Charles F. Weisenthal, to whom a patent was granted in London, June 24, 1755. It was pointed at both ends, with an eye in the middle, for passing each way through the cloth without being turned round; but it was only used for hand embroidery. The first application of machinery was contained in a patent to Robert Alsop, in London, dated March 22, 1770, for embroidering in a loom with one, two, or more shuttles. Machine embroidery, with a large number of needles, was patented by John Duncan, May 30, 1804. He used hooked needles, attached in a straight line to a horizontal bar, the forward motion of which carried all the hooked ends through the cloth, when, on being supplied with thread by a feeding needle, the reverse motion carried back loops which passed through and secured those of the previous stitch. Patterns were worked by a sliding motion of the fabric with its vertical frame. This was the first important step in embroidering machinery, which was carried to great perfection in the machine of Heilmann. This, however, used Weisenthal's two-pointed needle with the eye in the middle, and also nippers to pull the needle through, afterwards used by Greenough.—*American Cyclop.*

WE hear that Messrs. Buckley and Son, of Greek Street, Leeds, are now running nearly 600 sewing machines in their clothing and hat and cap factories.

THE Excelsior Supply Company have sent us their catalogue and price list. Everything in the sewing machine line is included within its pages, and every description of trade novelty is also quoted. All sewing machine men should have it. Write to the address of the Company, at 81, Jackson-street, Chicago, and it will be sent by return mail.

THE VERTICAL SEWING MACHINE OFFICE, in Queen Victoria Street, is displaying a pretty floral device in coloured silk, which has just been completed on their machine. It has some handsome "blue corn bottles" amongst the flowers, and is well set off by a neat frame. We believe it is the work of Mrs. Aldworth, the lady manager of the London Office, who has on former occasions shown great taste and skill in this kind of work.

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WE HEAR that business is very good with the White Sewing Machine Company in London. They have recently received large orders from France and Italy.

THE NEW WHITE SEWING MACHINE, which we were hoping to illustrate and explain in our present issue is not ready. Some further improvements of material importance are to be added.

THE WILCOX & GIBBS SEWING MACHINE COMPANY are exhibiting some very pretty machines. They have more nickel metal in their construction than is common, and the addition is a marked improvement.

THE WHEELER & WILSON SEWING MACHINE COMPANY are issuing large photographic views of their sewing machines as fitted up to run by steam power at the Royal Army Clothing Factory, Pimlico. The photo before us represents a room of the factory, just mentioned, having the machines fitted on three long benches.

As is WELL KNOWN to all mechanics, small articles of wrought iron or steel, such as parts of sewing machines, guns and small tools, are made on a large scale by the process known as "drop-forging." They are shaped out by dies, and generally have such well shaped and true surfaces that they merely require an ordinary surface polish. But some of these drop-forged articles, notably sewing machine shuttles, need to be milled on the milling machine or hand-filed to be dressed to exact dimensions before being polished. This latter work can be saved by making sewing machine shuttles by the new process, which is rapidly becoming popular in America, called "Compression finishing." The shuttles are subjected to pressure while cold, thus producing a very clean and even surface. A shuttle, under a pressure of eight hundred tons, will come out of the compression dies as clean and smooth as the surface of the dies themselves, and possessing a permanent compression of the metal of one four-hundredth of an inch.

NEW SEWING MACHINE MECHANISM.—We hear that some new mechanism is shortly to arrive in England from America in connection with sewing machines. Mr. Williams has made a machine the shuttle and feed levers of which are both pivoted on the same stud, similar to one or two other sewing machines; but as the feed lever moves only in one plane the usual joint for admitting motion in two planes is abandoned. The description is technical, but we understand that what is known as the feed lever gives only the backward and forward motion to the feed-dog, whilst the up and down motion is derived from a push-bar, pivoted to a lug, or short arm on the shuttle lever at the rear of the fulcrum. We can scarcely understand this motion in the words it reaches us, more particularly as we are informed that one end of the push-bar passes through a slot in the feed-dog, and also through a projection on the end of the feed lever, so as to push it across the line of feed. There are other novel points connected with the adjustment of the roller, and it is said that the feed lever receives its motion from a pitman suspended from the main shaft. The lengthening or shortening of the stitch is obtained by turning a screw. We must wait till we see the machine before we can better describe it, but it is said that it runs quietly and lightly at a very high speed.

*The attention of Manufacturers, Exporters, Shippers, and others is directed to the Important Notice which will be found on pages 9 and 19.*

### *Nervousness, Loss of Energy and Strength, and Nervous Disorders,*

SUCH as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fulness and Swelling after meals, Dizziness and Drowsiness, Cold Chills, Flushing, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy, Blotches on the Skin, Disturbed Sleep, Frightful Dreams, and all Nervous and Trembling Sensations, &c., quickly cured by

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### Cole's Household Treasures.

MR. WILLIAM COLE, of Ilfracombe, Devon, has forwarded us samples of a large number of specialties, many of which would be of interest and value to our readers. His Brunswick Black dries quick and hard with a very smooth even surface. His harness composition, which is waterproof, is invaluable for boots, shoes, straps, and other leather articles, as it softens and preserves all kinds of leather, and counteracts the effects of wet and mildew. His Britannia knife polish is particularly good, while having tried his sewing machine oil we are able to say that it is equal to, if not superior, to any in the market. The immense advantage of using a clear free running oil is obvious to the most uninitiated, and as the price of the oil is very low indeed, we are sure if introduced into the trade it will become very popular and tend to drive out of the market many inferior imitations. Mr. Cole has also produced the "Enameline," which is very useful for japanning bicycles and tricycles, or in fact any machines. It can be applied by anyone, dries hard almost instantly, and may be specially recommended for use after repairs or accidents. The price of this, like that of the other specialties of the Ilfracombe depot, is peculiarly small.

### Hancock's Invisible Automatic Bolt and Unpickable Door Lock.

THIS invention has for its object improvements in fastenings for street and other doors and windows, and other similar openings. The model, which we have examined, consists of three long bolts, radiating from the centre to the circumference of the door. One of these bolts, which may be called the main bolt, is placed in a horizontal line with the lock of the door, and the other two bolts are placed perpendicularly—one fastening into the centre of the frame at the top, and the other into the plate beneath. The handle is fixed in the centre of the door, from which the bolts are worked by means of a cogwheel placed upon the spindle of the handle, and acting upon a rack upon each of the several bolts. A slot cut into each bolt, and which works backwards or forwards upon a stud, holds the bolt firmly in gear against the cogwheel. The mechanism, being inside the panels of the door, is out of sight, and the handle itself, which is secured to a disc, can, if necessary (together with the spindle and cogwheel), easily be removed. Should it be considered desirable to retain the usual lock in addition to Hancock's invention, an important feature in this appliance consists of a slotted plate upon the main horizontal bolt; which plate, being shot over the ordinary keyhole, renders the lock unpickable. By turning a small key in the disc of the handle all the bolts can be thrown into, or out of, gear with the central cogwheel, which in turn forms also a ratchet wheel, to which a catch, held in position by a spring, is attached, thereby holding the bolts rigidly in position until released by means of a proper key. For asylums and other public institutions, theatres, banks, strong rooms, offices and warehouses, as well as the doors of private houses, the cabins of ships, and yachts, and, indeed, for all purposes where absolute security and safety are required, this invention is of the highest consequence, and will doubtless command the attention its importance deserves. It is also applicable to existing doors, and being exceedingly simple in construction is not likely to get easily out of order.

#### TO INVENTORS.

General Patent Office. Established 1830.

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*This Lighter, having no battery or other means possible to the least derangement, is practically inexhaustible.*

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With the Amendments, 1884;

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WITH the Amendment of 1884, relating to small Bankruptcies; with an explanatory introduction of the above Sections by Henry Broadhurst, Esq., M.P. (Secretary to the Trades Union Congress), showing how the new Act will benefit the working classes; to which is added a List of Metropolitan County Courts authorised by the Bankruptcy Act, 1883, to adjudicate upon small Bankruptcies, and names and addresses of solicitors practising in the said Courts. Compiled from the above Acts by J. G. Samouelle.

London: Ritchie & Co., Red Lion Court, Fleet Street, E.C.; and sold by all wholesale and retail newsvendors throughout the United Kingdom.

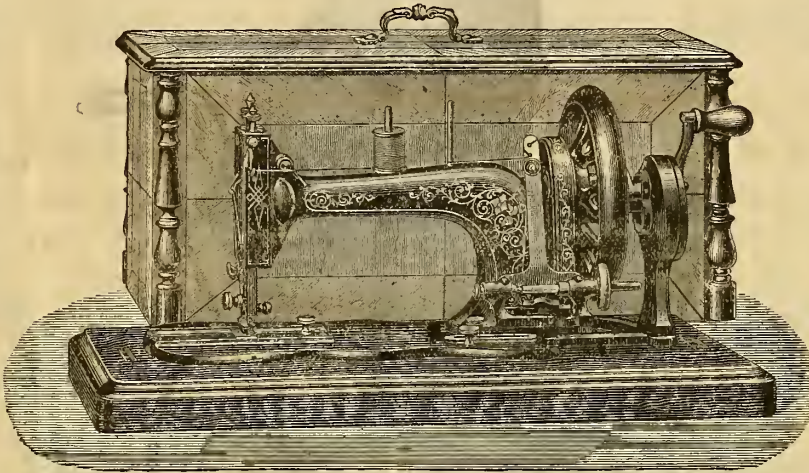
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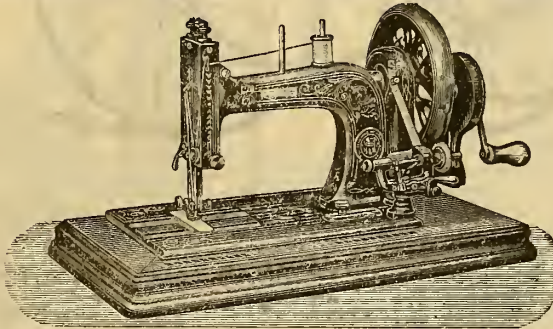


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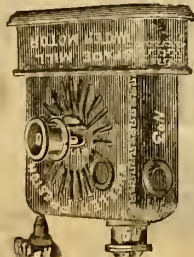
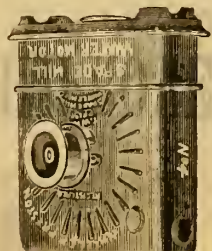
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- 5.—Elsa, iron base
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From *The Journal of Domestic Appliances*, May 1st, 1884.—New Water Motor.—We have just seen the design and description of a new inexpensive Water Motor, patented by Mr. Thomas Wheeler, of Preston, which appears to be worth attention. Also see review in *The Journal of Domestic Appliances* dated November 1st, 1884, page 27.

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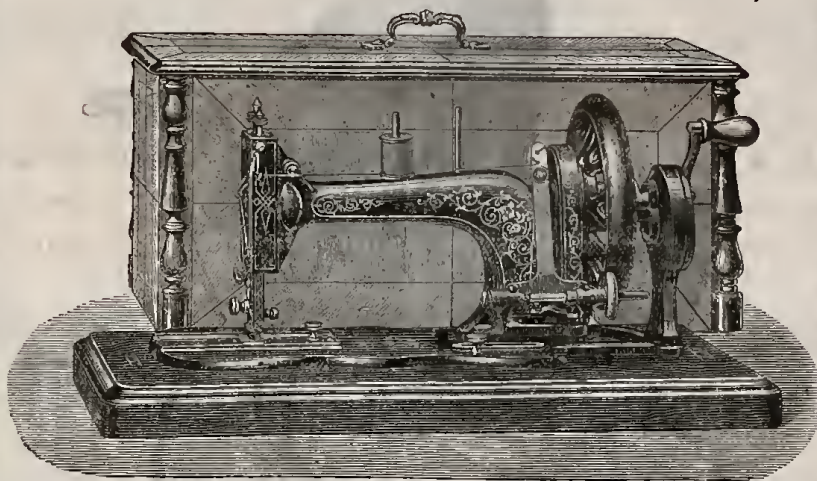




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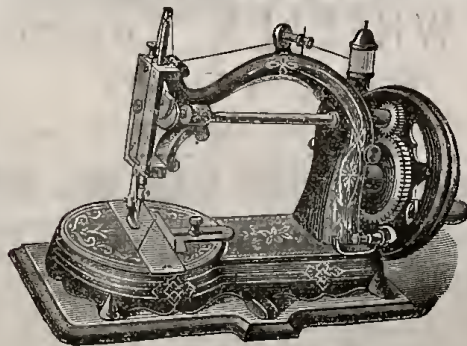
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- 17.—Titania
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- 23.—Do. round

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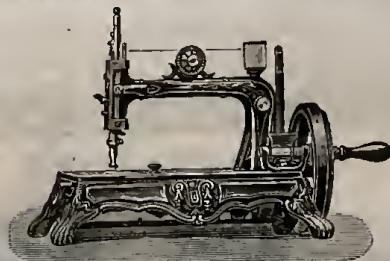


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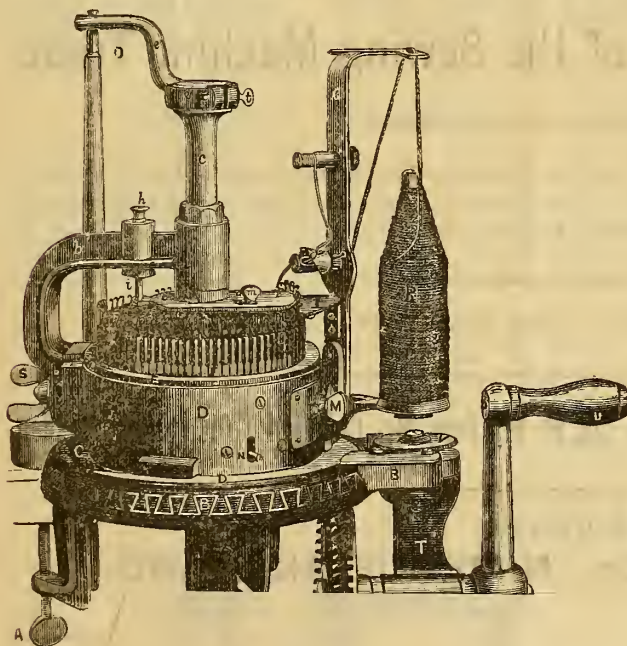




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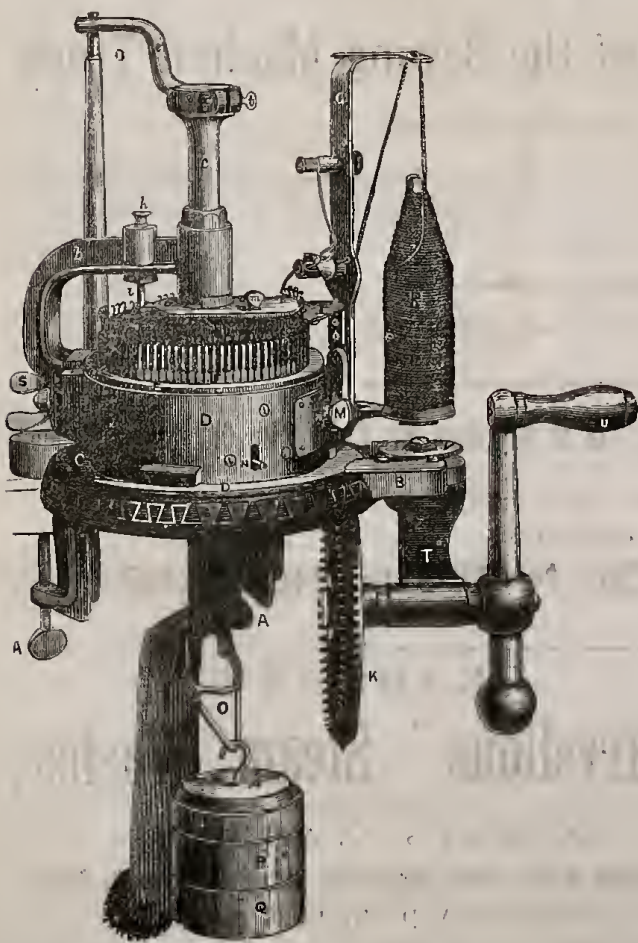
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The Continental Organ of the Sewing Machine Trade.

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DR. BURTON, of 14, Spring Hill, Birmingham, in a letter to the *British Medical Journal*, June 2nd, 1883, says:—



"Last September I bought from the St. George's Foundry Company, Pope Street, Birmingham, one of their "Rapid" Tricycles. It is a double-speeded Machine, enabling one to ascend even steep hills with tolerable ease and at a fair speed. When speeded for ordinary roads it travels at the rate of a little over four yards for each revolution of the crank shaft, and when geared for hill climbing, at the rate of three yards for each such revolution. In going down inclines, it is thrown out of gear, the feet resting on the pedals, and the pace readily controlled by the brake. It is very strongly built, in proof of which I have had it out on all sorts of roads since September, and it works easier and is better now than when new.

"I can honestly recommend this Tricycle as serviceable, reliable, and economical. In this hilly town I can with its aid visit nearly as many patients in a given time as I formerly did with a good horse. But more than all, in spite of the continuously wet weather we have of late experienced, my general health has improved greatly by this exercise. For five years before I had it I suffered almost constantly from arthritic rheumatism and sciatica; since I have used it both these enemies have disappeared. For night work it is invaluable."

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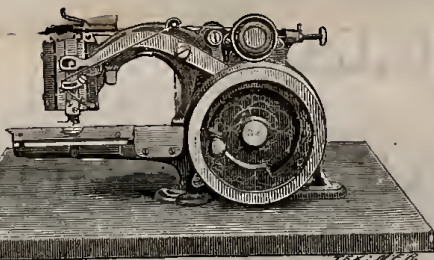
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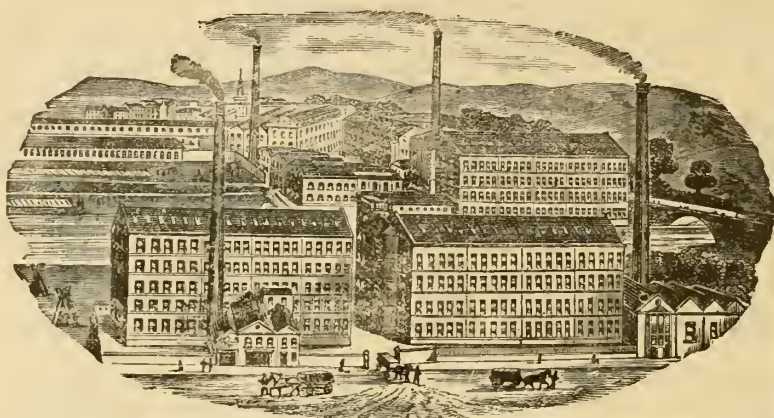
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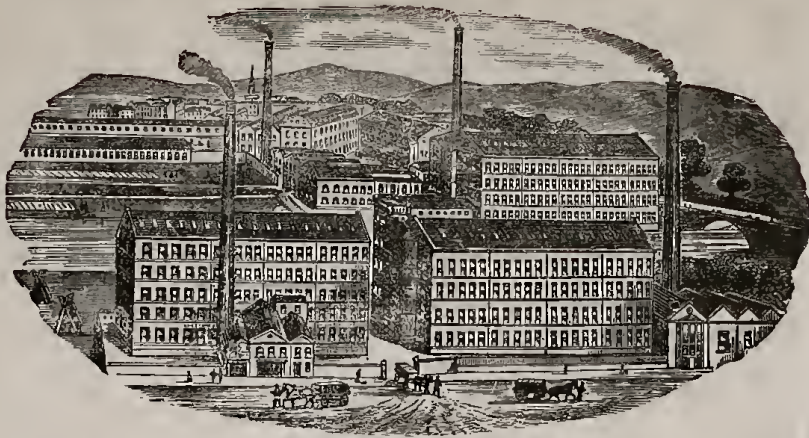
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